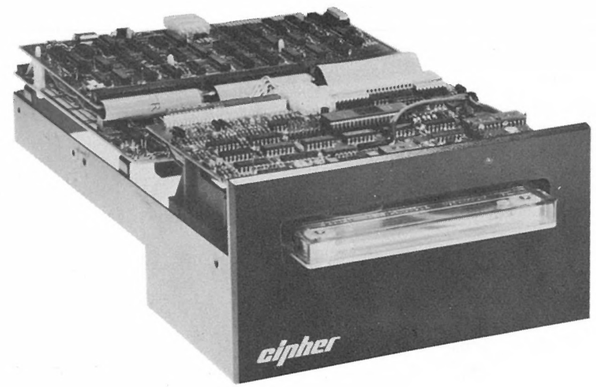
cipher® data products, inc.

Quarterback™
¼-Inch Cartridge Tape Drive
Engineering Drawing Package

Volume 2



cipher data products, inc.®

Quarterback™
¼-Inch Cartridge Tape Drive
Engineering Drawing Package

Volume 2

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RECORD OF REVISIONS

Revision	Description	Date
A	Original Publication	5/82
B	Updated all sections, deleted Section 4. Revised per ACN 2783 and 31583.	12/83

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LIST OF ILLUSTRATIONS

LIST OF TABLES

SECTION 1

LOGIC SCHEMATICS

1.1 INTRODUCTION

This volume contains all data essential to understand the logic functions of the Quarterback tape drive, as described in Volume 1. The information is presented in the following manner:

Section 1 Logic Schematics
Section 2 Assembly Drawings
Section 3 Master Parts List

1.2 RELATED DOCUMENTS

To enhance user knowledge of the Quarterback tape drive, the following related documents are available:

Product Description 207102-001
Maintenance Manual (Volume 1) 207100-001
Theory of Operation (Volume 3) 207100-003

1.3 LOGIC DEFINITIONS AND SYMBOLOGY

In several portions of this documentation, primarily Volume 3, and in this Engineering Drawing Package, logic symbols are used to represent certain logical functions or integrated circuit elements. The accepted integrated circuit manufacturer's industry-standard symbols are used here.

Since DTL and TTL logic is being employed, it is of the typical inverting type that use NAND-NOR elements rather than AND-OR devices.

In the logic schematics, the input/output lines to each device are shown for the true (active) state of the function. A state indicator, shown as a small circle at the input or output of a device, signifies that, if that line is in the true state, it is at a 0-Volt potential (low). Lack of a state indicator signifies that, if that line is in the true state, it is at +5 Volts (high). An example of a logic symbol with definitions is shown in Figure 1-1. The symbol depicts a logical NOR element which represents that output D is at +5 Volts if either input, A, B or C is at 0-Volt.

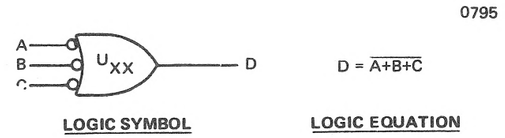


Figure 1-1. Logic Symbol Example

This figure shows a logical NOR element that says D is at +5 Volts (true state) if any one, or any combination of A, B, or C is at zero Volt. Typically, the reference designator of the particular chip in the assembly is shown within the symbol, and the corresponding integrated circuit (IC) pin numbers are shown on the lines external to the symbol. The numbers within the arrowheads on the logic schematics indicate the source or destination of the related signal by logic schematic page number. An arrowhead placed adjacent to a signal line indicates a connection at that point.

1.4 INTEGRATED CIRCUIT REFERENCE DATA

The one-shot produces a positive-going pulse at the "1" output and a negative-going pulse at the "0" output, and these are initiated at the time the input pulse makes a transition to its true state. The flip-flops are of the J-K type and have the input/output functions listed in Table 1-1. Tables 1-2 and 1-3 are truth tables applicable to these devices.

Table 1-1. Flip-Flop I/O Functions

Designation	Function
J	Synchronous set input
K	Synchronous reset input
T	Clock input
S_D	Direct set input
C_D	Direct clear (or Reset) input
1	Set output
0	Reset output

Table 1-2. Truth Table for Synchronous Operation

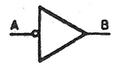
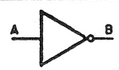
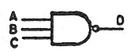
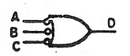
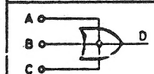
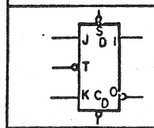
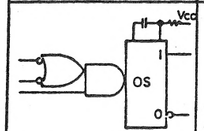
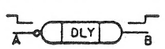
Before Clocks				After Clock	
Outputs		Inputs		Outputs	
I	0	J	K	I	0
L	H	L	X	L	H
L	H	H	X	H	L
H	L	X	L	H	L
H	L	X	H	L	H

Table 1-3. Truth Table for Asynchronous Operation

Inputs		Outputs	
SD	CD	I	0
L	L	H	H
L	H	H	L
H	L	L	H
H	H	Synchronous Operation	

Table 1-4 shows all the logic symbols used in this manual with their corresponding names and logical equations. The equations shown are defined by the true level of the input signal.

Table 1-4. Logic Symbols

SYMBOL	NAME	LOGICAL EQUATION
	NEGATIVE INVERTER	$B = \overline{A}$
	POSITIVE INVERTER	$B = \overline{A}$
	POSITIVE NAND GATE	$D = \overline{ABC}$
	NEGATIVE NOR GATE	$D = \overline{A+B+C}$
	NEGATIVE WIRED OR GATE	D = A+B+C
	FLIP-FLOP (J-K)	SEE TRUTH TABLE
	ONE-SHOT	SEE EXPLANATION
	TIME DELAY NETWORK	$B = \overline{A \cdot [DLY]}$

1.5 LOGIC SCHEMATICS

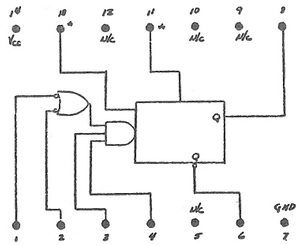
The following listed logic schematics are provided:

	Dwg. No.
Schematic, Main PWB	207002-200
Schematic, Controller PWB	207005-200
Schematic, Microcomputer Expander PWB	207011-200
Schematic, Motor Driver PWB	207017-200
Schematic, Main PWB	207066-200
Schematic, Motor Driver PWB	207069-200
Schematic, Motor Driver PWB	207076-200

NOTES:

1. CASE - 14 Pin Dip, Dimensions Per Spec. Dwg. No. 124000-001
2. MATERIAL - Case - PLASTIC; Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	PART NO.	COMMENTS
AMD	AM9601PC	
FAIRCHILD	F9601PC	Old P/N U6A960159X
ITT SEMI	ITT9601-N	
NATIONAL SEMI	DM9601N	
RAYTHEON	RF9601N	
STEWART WARNER	SW9601M	



* FOR EXTERNAL TIMING

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Part No. 100090-001

REV.	DESCRIPTION	CHK.	DATE	APPROVED
G	ECO 12325	Kam	7/13/82	
F	ECO 12296	Kam	6/14/82	
E	ECO 10237		4/17/80	
D2	NEW FORMAT		7/24/77	

REVISIONS

cipher data products, inc.

I.C., RETRIGGERABLE MONOSTABLE MULTIVIBRATOR (9601)

CODE 109

DRAWN	C.Kelberlau	7/26/77	100090-000
CHECK		7/26/77	
APPR.		7/26/77	

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

FORM 495 (12/76)

100234-000

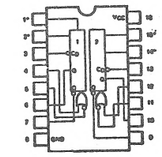
NOTES

1. CASE: 16 Pin Plastic DIP Per CDP Spec. Dwg. No. 124000-002
2. ELECTRICAL: Per applicable vendor data sheet

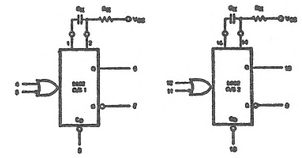
VENDOR	VENDOR PART NO.
AMD	AM9602PC
FAIRCHILD	9602PC
NATIONAL	DM8602N
SIGNETICS	N9602N

100234-001 - STANDARD PART

100234-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC. NO. 190000



*Pins for external timing.



REV	DESCRIPTION	APP/DATE
C	ADD -101	11/7
D	ECO 8563	5/6/78
E	ECO 12954	8/22/79 Kam

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TOLERANCES .XX± ANGULAR .XXX± ±

MODEL

NEXT ASSY

PART NUMBER 100234-XXX

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I.C., MONOSTABLE MULTIVIBRATOR DUAL RETRIGGERABLE (9602)

CODE 109

DRAWN	C.Kelberlau	11/7/77	100234-000
CHECK		11/7/77	
APPR		11/7/77	

CODE IDENT 52465

SHEET 1 OF 1

FORM 201 (R. 8/77)

100331

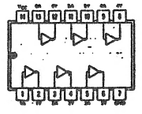
NOTES

1. CASE: 14 Pin Plastic DIP Per CDP Spec. Dwg. No. 124000-001
2. ELECTRICAL: Per applicable vendor data sheet

VENDOR	VENDOR PART NO.
TEXAS INST.	SN7406N
SIGNETICS	N7406A
MOTOROLA	MC7406P
FAIRCHILD	9N06P
NATIONAL SEMI.	DM7406N

100331-001 - STANDARD PART

100331-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC. NO. 190000



REV	DESCRIPTION	APP/DATE
B1	ADD -101	11/17

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TOLERANCES .XX± ANGULAR .XXX± ±

MODEL

NEXT ASSY

PART NUMBER 100331-XXX

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I.C., HEX INVERTER BUFFER, OC (7406)

CODE 109

DRAWN	C.Kelberlau	11/17/77	100331
CHECK		11/17/77	
APPR		11/17/77	

CODE IDENT 52465

SHEET 1 OF 1

B1

REVISIONS				100345 A
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	Manufacturing Release		7/24/72	

Integrated Circuit, Phase-Frequency Detector

Motorola P/N MC4044P

PART NO. 100345-001

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± ANGULAR .XXX± ±	DRAWN	G. Scott	8-30-72
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK		
3. MACH. SURFACES √	APPR.		
4. ALL DIMS IN INCHES.	MATERIAL		
	FINISH		
	MODEL No.		
	NEXT ASSY		

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cipher data products, inc.

INTEGRATED CIRCUIT, PHASE FREQUENCY DETECTOR

CODE

QTY. REQ'D.

SCALE

SIZE A

100345

A

DO NOT SCALE THIS DRAWING

WEIGHT

SHEET 1 of 1

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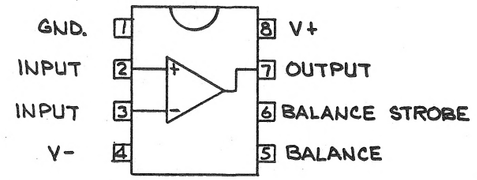
101022-000

INTEGRATED CIRCUIT
VOLTAGE COMPARATOR, 8 PIN
DUAL-IN-LINE PLASTIC PACKAGE
OPERATING TEMPERATURE RANGE 0 TO 70°C

NATIONAL SEMICONDUCTOR - P/N LM311N
MICRO SYSTEM INTERNATIONAL (MIL) - P/N LM311S
SILICON GENERAL - P/N SG311M
MOTOROLA - P/N MLM 311P1
INTERSIL - LM311N
TEXAS INST. - LM1311P (FORMERLY SN72311P)
AMD - AM311N
FAIRCHILD - μA311TC



TOP VIEW

REV	DESCRIPTION	APP/DATE
A	MFG. RELEASE	
B	ADDED MIL, SILICON GEN.	
C	ADDED T.I.& INTERSIL	
D	ADDED AMD	
E	E1 CR/O 9361	12-4-73
E1	CR/O 9564	8-14-79
E2	CR/O 9650	8-15-79

PART NUMBER 101022-001

DO NOT SCALE DRAWING
TOLERANCES .XX± ANGULAR .XXX± ±
MODEL
NEXT ASSY

cipher data products, inc.

INTEGRATED CIRCUIT, VOLTAGE COMPARATOR (311) — CODE 109

DRAWN	Renee Marcus	8/74	101022-000 E2
CHECK			
APPR			CODE IDENT 52465 — SHEET 1 OF 1

FORM 201 (R 1-79) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-5624

CC

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101031-000

INTEGRATED CIRCUIT,
DUAL PERIPHERAL POSITIVE NAND DRIVER
DUAL-IN-LINE PLASTIC PACKAGE, 8 PIN

VENDOR	PART NO.
Texas Instruments	SN75452P
National	DS75452N
Motorola	MC75452P
Signetics	N75452B
Fairchild	75452BTC

101031-001 STANDARD PART
101031-101 BURN-IN IN ACCORDANCE WITH CDP SPEC NO. 190000.

REV	DESCRIPTION	APP/DATE
A	MFG REL	—
B	SEE REV E0	2-26-73
B1	ADD -101	11-27-78
B2	CR/O 9058	3-13-79
C	ECO 10978	8-10-79 RJC

PART NUMBER 101031-XXX SEE TABULATION

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TOLERANCES .XX± ANGULAR .XXX± ±
MODEL
NEXT ASSY

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INTEGRATED CIRCUIT, DUAL PERIPHERAL POSITIVE NAND DRIVER — CODE —

DRAWN	G. Scott	9-18-78	101031-000 C
CHECK	CUMMISKEY	10-17-80	
APPR	Jess Kendrick	10/17/80	CODE IDENT 52465 — SHEET 1 OF 1

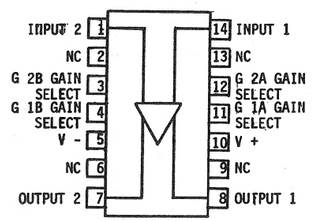
FORM 201 (R 1-79) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-5624

101032-000

NOTES:

1. CASE - 14 PIN DIP PER SPEC DWG. NO. 124000-001
2. ELECTRICAL - PER APPLICABLE VENDOR DATA SHEET.

VENDOR	VENDOR PART NO.
SIGNETICS	NE592N
AMD	AM592PC
INTERSIL	NE592N
MOTOROLA	NE592N



REV	DESCRIPTION	APP/DATE
B	ECO 11434	12-5-80 RJC
C	ECO 12644	5-5-81

PART NUMBER 101032-001

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TOLERANCES .XX± ANGULAR .XXX± ±
MODEL
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I.C., VIDEO AMPLIFIER, DIFFERENTIAL — CODE 109

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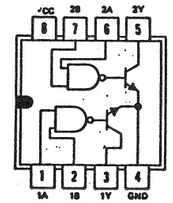
DRAWN	MATTHES	4/21/81	101032-000 C
CHECK	CUMMISKEY	4/21/81	
APPR	Jess Kendrick	5/5/81	CODE IDENT 52465 — SHEET 1 OF 1

FORM 201 (R 1-79) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-5624

101139-00D

NOTES

1. CASE: 8 Pin Plastic DIP Per CDP Spec Dwg. No. 124000-003
2. ELECTRICAL: Per applicable vendor data sheet



VENDOR	VENDOR PART NO.
TEXAS INSTRUMENTS	SN75451BP
MOTOROLA	MC75451P
NATIONAL SEMI	DS75451N

101139-001 - STANDARD PART
101139-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000

REV	DESCRIPTION	APP/DATE
B	ADD -101	11-7-77
C	ECO 10704	2-28-78
D	ECO 12245	5-30-80
D1	ECO 12282	7-9-82

PART NUMBER 101139-001

DO NOT SCALE DRAWING
TOLERANCES .XX± ANGULAR .XXX± ±
MODEL
NEXT ASSY

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I.C., DUAL PERIPHERAL POSITIVE AND DRIVER (75451) — CODE 109

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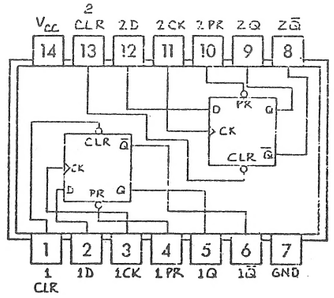
DRAWN	C.Kelberlau	11/1/77	101139-000 D
CHECK		11/1/77	
APPR	Jess Kendrick	11/7/77	CODE IDENT 52465 — SHEET 1 OF 1

FORM 201 (R. 8/77)

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets
3. OPERATING TEMP. - $0^{o}C$ to $+70^{o}C$

VENDOR	VENDOR PART NO.
TEXAS INST.	SN74S74N
SIGNETICS	N74S74N
NATIONAL	DM74S74N
FAIRCHILD	74S74PC



123023-001 - STANDARD PART

123023-101 - BURNED-IN IN ACCORDANCE WITH CIPHER DATA SPEC NO. 190000.

Part No. 123023-XXX SEE TABULATION

cipher data products, inc.

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	ECO 10719.	[illegible]	1/30/80	
B	CR/O 9562 JENSEN	[illegible]	9/17/79	
A1	[illegible]	[illegible]	[illegible]	

REVISIONS

I.C., DUAL "D" TYPE FLIP-FLOP W/PRESET AND CLEAR, SCHOTTKY (74S74)

CODE 109

DRAWN	C.Kelberlau	7/25/77
CHECK	[illegible]	7/25/77
APPR.	[illegible]	7/27/77

123023-000 C

DO NOT SCALE THIS DRAWING

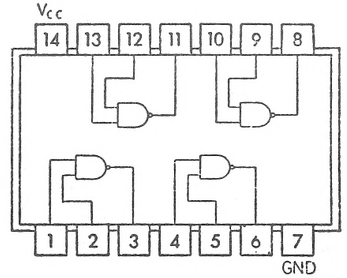
SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. PACKAGE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets
3. OPERATING TEMP. - $0^{o}C$ to $+70^{o}C$

VENDOR	PART NO.
Texas Inst.	SN74S00N
Fairchild	74S00PC



123028-001 - STANDARD PART

123028-101 - BURNED-IN IN ACCORDANCE WITH CIPHER DATA SPEC NO. 190000

Part No. 123028-XXX

cipher data products, inc.

REV.	DESCRIPTION	CHK.	DATE	APPROVED
D	CR/O 9562 JENSEN	[illegible]	9/17/79	
C	CR/O 8227	[illegible]	9/15/77	
B	CR/O 7949	[illegible]	8/1/77	
A1	NEW FORMAT	[illegible]	7/22/77	

REVISIONS

I.C., SUPER HIGH SPEED QUAD TWO INPUT NAND (74S00)

CODE 109

DRAWN	C.Kelberlau	7/22/77
CHECK	[illegible]	7/22/77
APPR.	[illegible]	7/22/77

123028-000 D

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

FORM 495 (12/76)

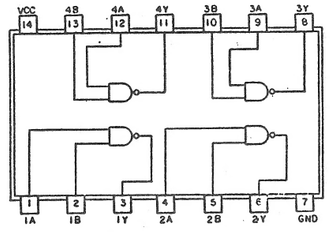
NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. MATERIAL - Case - Plastic or Ceramic; Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	PART NO.
National	DM74LS00 (N,J)
Signetics	N74LS00 (A,F)
Texas Inst.	SN74LS00 (N,J)
Fairchild	F74LS00 (P,D)C
Motorola	SN74LS00N

123029-001 STANDARD PART

123029-101 BURNED-IN IN ACCORDANCE WITH CDP SPEC. NO. 190000



POSITIVE LOGIC: $Y = \overline{AB}$

Part No. 123029-XXX

cipher data products, inc.

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	ECO 12775	Hawn	7/7/83	
A2	ADD -101	[illegible]	11/27/78	
A1	NEW FORMAT	[illegible]	7/22/77	

REVISIONS

I.C., QUAD 2-INPUT NAND GATE, LOW-PWR. SCHOTTKY (74LS00)

CODE 109

DRAWN	C.Kelberlau	7/22/77
CHECK	[illegible]	7/22/77
APPR.	Jess Kendrick	7/22/77

123029-000 B

DO NOT SCALE THIS DRAWING

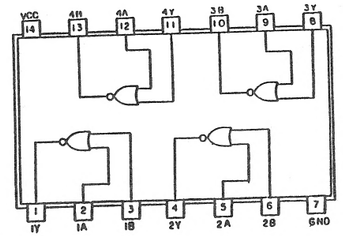
SHEET 1 of 1

NOTES:

CASE: 14 Pin Plastic DIP Per Spec Dwg. No 124000-001

ELECTRICAL: Per the Applicable Vendor Data Sheets.

VENDORS:	PART NUMBERS
NATIONAL	DM74LS02 (N;J)
SIGNETICS	N74LS02 (A,F)
TEXAS INST.	SN74LS02 (N,J)
FAIRCHILD	F74LS02 (P,D) C



POSITIVE LOGIC: $Y = A + B$

123030-001 Standard Part

123030-101 Burned-In In Accordance With CDP Spec, No. 190000

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

PART NUMBER 123030-XXX

cipher data products, inc.

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A2	ADD -101	[illegible]	2/18/78	
A1	NEW FORMAT	[illegible]	8/15/77	

REVISIONS

I.C, QUAD 2-INPUT NOR GATE, LOW - PWR SCHOTTKY (74LS02)

CODE 109

DRAWN	M.R.HOWARD	8/12
CHECK	[illegible]	8/15/77
APPR.	Jess Kendrick	8/15/77

123030 A2

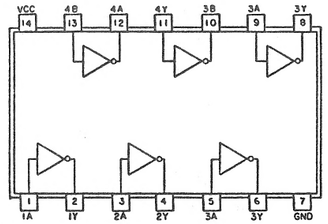
DO NOT SCALE THIS DRAWING

SHEET 1 of 1

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec.
   Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	PART NO.
National	DM74LS04 (N,J)
Signetics	N74LS04 (A,F)
Texas Inst.	SN74LS04 (N,J)
Fairchild	F74LS04 (P,D)C



POSITIVE LOGIC:
Y = $\overline{A}$

123031-001 - STANDARD PART
123031-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123031-XXX

cipher data products, inc. — 3/4"

I.C., HEX INVERTER, LOW-PWR. SCHOTTKY (74LS04)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	CRIO 9562 JENSEN	GK 8-17-79	9/17/79	
A_2	NEW FORMAT		7/22/77	

DRAWN	C. Kelberlau	7/21/77	123031-000
CHECK	J. Watson	7/22/77	B
APPR.	Jean Kendrick	7/22/77	

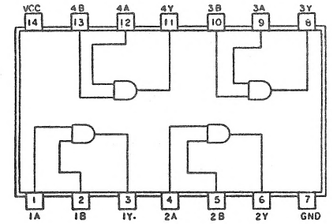
REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec.
   Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	PART NO.
National	DM74LS08 (N,J)
Signetics	N74LS08 (A,F)
Texas Inst.	SN74LS08 (N,J)
Fairchild	F74LS08 (D,P)C



POSITIVE LOGIC:
Y = AB

123032-001 Standard Part

123032-101 Burned-In in accordance with CDP Spec. No. 190000.

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123032-XXX

cipher data products, inc. — 3/4"

I.C., QUAD 2-INPUT AND GATE, LOW-PWR. SCHOTTKY (74LS08)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	CRIO 9745/A M.L.	GK 10-30	11/11/80	
A_2	NEW FORMAT		7/22/77	

DRAWN	C. Kelberlau	7/22/77	123032-000
CHECK	J. Watson	7/22/77	B
APPR.	Jean Kendrick	7/22/77	

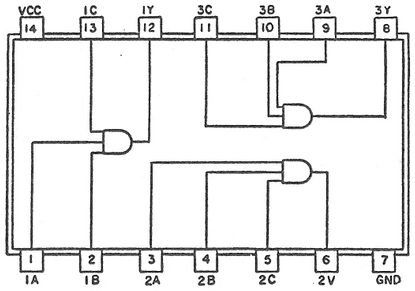
REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec.
   Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	PART NO.
National	DM74LS11 (N,J)
Signetics	N74LS11 (A,F)
Texas Inst.	SN74LS11 (N,J)
Fairchild	F74LS11 (D,P)C
MOTOROLA	SN74LS11N
123034-001	STANDARD PART
123034-101	BURNED-IN IN ACCORDANCE WITH CDP SPEC. NO. 190000



POSITIVE LOGIC:
Y = $\overline{ABC}$

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123034-XXX

cipher data products, inc.

I.C., TRIPLE 3-INPUT AND GATE, LOW-PWR. SCHOTTKY (74LS11)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	ECO 13024 JAY	per 11/26/83	11/30/83	
A_2	ADD -101		11/27/78	
A_1	NEW FORMAT		7/21/77	

DRAWN	C. Kelberlau	7/21/77	123034-000
CHECK	J. Watson	7/21/77	B
APPR.	Jean Kendrick	7/21/77	

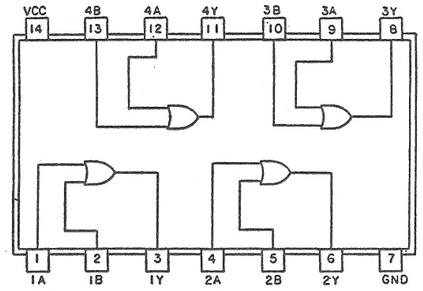
REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec.
   Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR.	PART NO.
National	DM74LS32 (N,J)
Signetics	N74LS32 (A,F)
Texas Inst.	SN74LS32 (N,J)
Fairchild	F74LS32 (D,P)C



POSITIVE LOGIC:
Y = A+B

123035-001 Standard Part

123035-101 Burned-In in accordance with CDP Spec. No. 190000.

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123035-XXX

cipher data products, inc.

I.C., QUAD 2-INPUT OR GATE, LOW-PWR. SCHOTTKY (74LS32)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	CRIO 9745/A M.L.	GK 10-30	11/11/80	
A_2	NEW FORMAT		7/20/77	

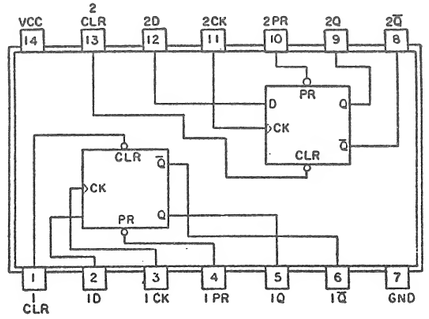
DRAWN	C. Kelberlau	7/20/77	123035-000
CHECK	J. Watson	7/20/77	B
APPR.	Jean Kendrick	7/21/77	

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets



VENDOR	PART NO.
National	DM74LS74 (N,J)
HITACHI	HD74LS74AP
Texas Inst.	SN74LS74 (N,J, AN)
Fairchild	74LS74 (D,P)C
Signetics	N74LS74AN
Motorola	SN74LS74A (N,J)
123036-001	STANDARD PART
123036-101	BURNED-IN IN ACCORDANCE WITH CDP SPEC. NO. 190000

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123036-XXX SEE TABULATION

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	ECO 10238	[illegible]	4/29/80	
B2	ADD -101		1/20/78	
B1	CR/O 8727		8/11/78	
B	CR/O 8553		5/5/78	
A1	NEW FORMAT		7/10/77	

REVISIONS

cipher data products, inc.

I.C., DUAL D-TYPE FLIP-FLOP W/PRESET & CLEAR, LOW-PWR. SCHOTTKY (74LS74)

CODE 109

DRAWN	C.Kelberlau	7/10/77	123036-000
CHECK	J.Watson	7/20/77	
APPR.	Jess Kendrick	7/21/77	

SIZE C

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

FORM 495 (12/76)

THIS DRAWING CONTAINS PROPRIETARY
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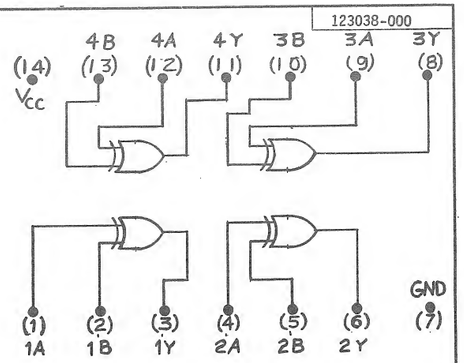
123038-000

NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001 or Per Pkg. Code Under Vendor Part No.
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin, or Bright Solder Dipped)
3. ELECTRICAL CHARACTERISTICS - Per the Applicable Vendor Data Sheets



VENDOR	VENDOR PART NO.
Fairchild	F74LS86 (P,D)C
Texas Inst.	SN74LS86 (J,N)
Motorola	SN74LS86 (J,N)
National	DM74LS86 (J,N)
Signetics	N74LS86 (N,F)
123038-001	STANDARD PART
123038-101	BURNED-IN IN ACCORDANCE WITH SPEC. NO. 190000

PART NUMBER 123038-XXX

REV	DESCRIPTION	APP/DATE
A1	NEW FORMAT	7/21/77
A2	ADD -101	11/27/78
A3	CR/O 9058	3/13/79
A4	CR/O 9129	3/26/79
B	REV. & RDW	[illegible]
-	PER CR/O 9409	[illegible]
-		[illegible]
C	CR/O 9639/A	[illegible]

DO NOT SCALE DRAWING

TOLERANCES .XX± ANGULAR .XXX± ±

MODEL

NEXT ASSY

cipher data products, inc.

I.C., QUAD. 2-INPUT EXCLUSIVE OR GATE, LOW-PWR. SCHOTTKY (74LS86)

CODE 109

DRAWN	C.Kelberlau	7/21/77	123038-000
CHECK	J.Watson	7/21/77	
APPR	J.Kendrick	7/21/77	

SIZE C

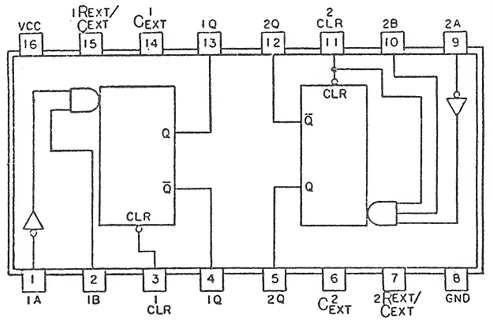
CODE IDENT 52465

SHEET 1 OF 1

FORM 201 (R 1-79) BISHOP GRAPHICS/ACCUPRESS

NOTES:

1. CASE - 16 Pin Plastic DIP Per Spec. Dwg. No. 124000-002
2. MATERIAL -
   Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets



VENDOR	PART NO.
National	DM74LS123 (N,J)
Signetics	N74LS123 (B,F)
Texas Inst.	SN74LS123 (N,J)
Fairchild	F74LS123 (D,P)C

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123039-001

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	NEW FORMAT	[illegible]	7/21/77	

REVISIONS

cipher data products, inc.

I.C., DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR W/CLEAR, LOW-PWR. SCHOTTKY (74LS123)

CODE 109

DRAWN	C.Kelberlau	7/21/77	123039
CHECK	J.Watson	7/21/77	
APPR.	Jess Kendrick	7/21/77	

SIZE A1

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

FORM 495 (12/76)

123045-000

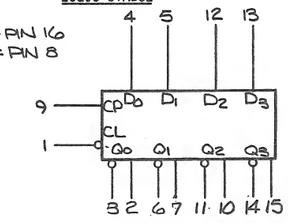
NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 16 PIN PLASTIC DIP PER CIPHER DATA PRODUCTS SPEC DWG. NO. 124000-002

CIPHER PART NO.	VENDOR	VENDOR PART NO.
123045-001	TEXAS INSTRUMENTS	SN74LS175 (J,N)
123045-001	FAIRCHILD	F74LS175 (D,P)C
123045-001	NATIONAL	DM74LS175 (J,N)
123045-001	SIGNETICS	N74LS175 (B,F)
123045-001	AMD	AM74LS175 (N,J)
	MOTOROLA	SN74LS175 (N)
123045-002	AMD	AM25LS175 (N)

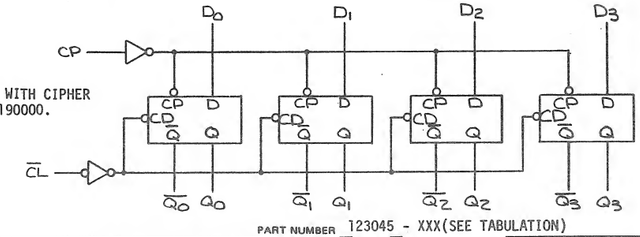
LOGIC SYMBOL

VCC = PIN 16
GND = PIN 8



LS175

LOGIC DIAGRAM



123045-0XX STANDARD PART

123045-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

PART NUMBER 123045 - XXX(SEE TABULATION)

REV	DESCRIPTION	APP/DATE
A	REV & DRW	KAM 7/20/77
B	ECO 11993	[illegible] 7/20/77
C	ECO 13021	[illegible] 7-20-77

DO NOT SCALE DRAWING

TOLERANCES .XX± ANGULAR .XXX± ±

MODEL

NEXT ASSY

cipher data products, inc.

I.C., QUAD., D-TYPE FLIP-FLOP, WITH CLEAR (25/74LS175)

CODE 109

DRAWN	C.KELBERLAU	7-20-77	123045-000
CHECK	J.WATSON	7-20-77	
APPR	JESS KENDRICK	7-20-77	

SIZE C

CODE IDENT 52465

SHEET 1 OF 1

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

FORM 201 (R 11/80)

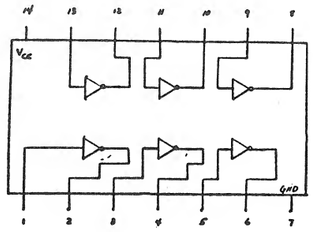
NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. MATERIAL -
   Case - Ceramic or Plastic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	VENDOR PART NO.
Signetics	N74S04 (A,F)
Fairchild	F74S04 (P,D)C
National	DM74S04 (N,J)
Texas Inst.	SN74S04 (N,J)

123046-001 Standard Part

123046-101 Burned-In In Accordance With CDP Spec. No. 190000



THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123046-XXX

cipher data products, inc.

I.C., HEX INVERTER, SCHOTTKY (74S04)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A2	ADD -101			
A1	NEW FORMAT			

DRAWN	C.Kelberlau		123046
CHECK			
APPR.			

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

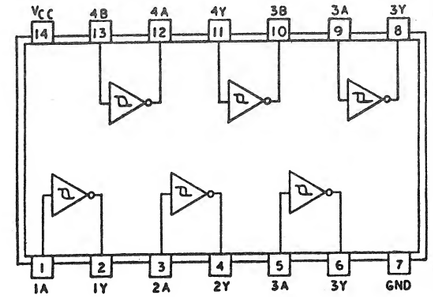
NOTES:

1. CASE - 14 Pin Plastic Dip Per Spec. Dwg. No. 124000-001
2. MATERIAL -
   Case - Plastic or ceramic
   Leads - Plated (Gold, Tin, or Bright Solder Dipped)
3. ELECTRICAL PARAMETERS - Per the Applicable Vendor Data Sheets

VENDOR	VENDOR PART NO.
Natibnal	DM74LS14 (N,J)
Signetics	N74LS14 (A,F)
Texas Inst.	SN74LS14 (N,J)
Fairchild	F74LS14 (P,D)C

123047-001 - STANDARD PART

123047-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000.



POSITIVE LOGIC:
Y=A

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123047-XXX

cipher data products, inc.

I.C., HEX INVERTER, SCHMITT-TRIGGER, LOW-PWR SCHOTTKY (74LS14)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A2	ADD -101		7/19/77	
A1	NEW FORMAT		7/20/77	

DRAWN	C.Kelberlau	7/20/77	123047
CHECK		7/20/77	
APPR.		7/21/77	

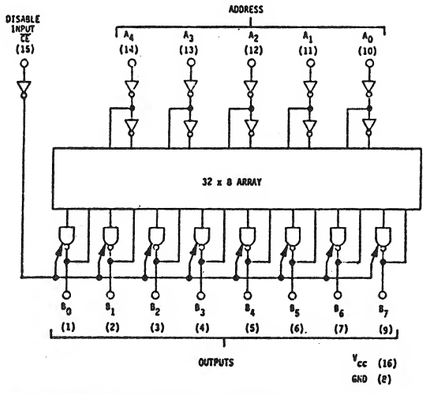
REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1 | A2

FORM 495 (12/76)

NOTES:

1. CASE - 16 Pin Plastic DIP Per Spec: Dwg. No. 124000-002
2. MATERIAL: Case - Plastic or Ceramic
   Leads - Plated (Gold, Tin or Bright Solder Dipped)
3. ELECTRICAL CHARACTERISTICS - Per the Applicable Vendor Data Sheets
4. The Integrated Circuit described in this spec. must be further modified by programming prior to use.

VENDOR	VENDOR PART NO.
SIGNETICS	N82S123B or N82S123F
INTERSIL	IM5610CPE or IM5610CJE



NOTE: Outputs are disabled (at high impedance state) when $\overline{CE}$ is at logical high state.

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

Part No. 123056-001

cipher data products, inc.

I.C., ROM-PROGRAMMABLE, 256 BIT TRI-STATE OUTPUTS 123056

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	NEW FORMAT		7/20/77	

DRAWN	C.Kelberlau	7/20/77	123056
CHECK		7/20/77	
APPR.		7/20/77	

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1 | A1

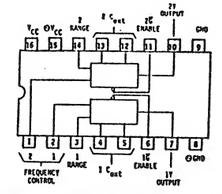
FORM 495 (12/76)

NOTES:

CASE: 16 Pin Plastic DIP Per Spec Dwg. No. 124000-002

ELECTRICAL: Per The Applicable Vendor Data Sheets.

VENDOR	PART NUMBER
TEXAS INSTRUMENTS	SN74S124N
or	SN74S124J



LOGIC: OUTPUT (Y) IS ENABLED WHEN ENABLE INPUT ($\overline{E}$) IS LOW
OUTPUT (Y) IS DISABLED HIGH WHEN ENABLE INPUT ($\overline{E}$) IS HIGH

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PART NUMBER 123069-001

cipher data products, inc.

INTEGRATED CIRCUIT DUAL VOLTAGE-CONTROLLED OSCILLATORS, SCHOTTKY - 74S124

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	NEW FORMAT		8/15/77	

DRAWN	M.R.HOWARD	8/12	123069
CHECK		8/15/77	
APPR.		8/15/77	

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1 | A1

FORM 495 (12/76)

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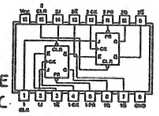
NOTES:

1. CASE - 16 Pin Plastic Dip Per Spec Dwg. No. 124000-002
2. ELECTRICAL - Per Applicable Vendor Data Sheets

VENDOR	PART NUMBER
TEXAS INST.	SN74LS109N
AMD	AM74LS109PC
FAIRCHILD	74LS109PC
NATIONAL	DM74LS109N
SIGNETICS	N74LS109B
MOTOROLA	SN74LS109AN

FUNCTION TABLE

INPUTS					OUTPUTS	
PRESET	CLEAR	CLOCK	J	$\overline{K}$	Q	$\overline{Q}$
L	H	X	X	X	H	L
H	L	X	X	X	L	H
L	L	X	X	X	H*	H*
H	H	↓	L	L	-L	H
H	H	↑	H	L	TOGGLE	
H	H	↑	L	H	Q_0	$\overline{Q}_0$
H	H	↑	H	H	H	L
H	H	L	X	X	Q_0	$\overline{Q}_0$



123084-001 - STANDARD PART
123084-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000.

PART NUMBER 123084-XXX

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	ECO 13022 JAZ	Kam 11/28/83	11/30/83	
B	CR/O 9562 SENOR	JAZ 9-17-79	9/17/79	
A_1	NEW FORMAT		8/12/77	

REVISIONS

cipher data products, inc.

I.C., DUAL J-K POSITIVE EDGE TRIGGERED FLIP-FLOP, LOW PWR SCHOTTKY (74LS109)

CODE 109

DRAWN	M.R.HOWARD	8/11	123084-000
CHECK	D. WATSON	8/11/77	
APPR.	Jess Kendrick	8/11/77	

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

C

FORM 495 (12/76)

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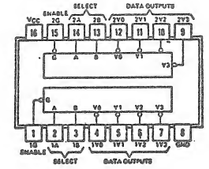
NOTES:

CASE: 16 Pin Plastic Dip Per Spec. Dwg. No. 124000-002

ELECTRICAL - Per Applicable Vendor Data Sheets.

VENDOR	PART NUMBER
TEXAS INST.	SN74LS139N
AMD	AM74LS139PC
FAIRCHILD	74LS139PC
NATIONAL	DM74LS139N
SIGNETICS	N74LS139B
MOTOROLA	SN74LS139N



123085-001 Standard Part
123085-101 Burned-In in accordance with CDP Spec. No. 190000.

PART NO. 123085-XXX

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	ECO 13024 JAZ	Kam 11-28-83	11/30/83	
B	CR/O 9745/A M.L.	JAZ 7-10-80	1/11/80	
A_1	NEW FORMAT		8/15/77	

REVISIONS

cipher data products, inc.

I.C., DUAL 2-TO-4 LINE DECODER DUAL 1-TO-4 LINE DEMULTIPLEXER LOW PWR SCHOTTKY (74LS139)

CODE 109

DRAWN	M.R.HOWARD	8/10	123085-000
CHECK	D. WATSON	8/15	
APPR.	Jess Kendrick	8/15/77	

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

C

FORM 495 (12/76)

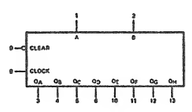
123086-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 14 PIN PLASTIC DIP PER CIPHER DATA PRODUCTS SPEC DWG. NO. 124000-001

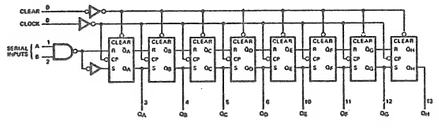
CIPHER PART NO.	VENDOR	VENDOR PART NO.
123086-001	TEXAS INSTRUMENTS	SN74LS164N
	FAIRCHILD	74LS164PC
	NATIONAL	DM74LS164N
	SIGNETICS	N74LS164A
	AMD	AM74LS164PC
123086-002	AMD	AM25LS164PC

LOGIC SYMBOL



V_{CC} = Pin 14
GND = Pin 7

LOGIC DIAGRAM



123086-0XX STANDARD PART

123086-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

PART NUMBER 123086-XXX(SEE TABULATION)

REV	DESCRIPTION	APP/DATE
C	ECO 12002 REVISED DRAWN	JAZ 8-23-82

DO NOT SCALE DRAWING
TOLERANCES .XX± .XXX± ANGULAR ±
MODEL
NEXT ASSY

cipher data products, inc.

I.C., 8-BIT SERIAL-IN, PARALLEL OUT SHIFT REGISTER (25/74LS164)

CODE 109

DRAWN	M.R.HOWARD	8/15	123086-000
CHECK	T. WATSON	8-15-77	
APPR	JESS KENDRICK	8-15-77	CODE IDENT 52465

SHEET 1 OF 1

C

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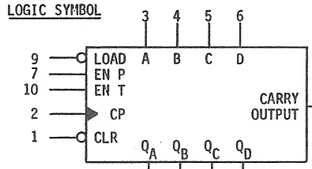
123090-000

NOTES:

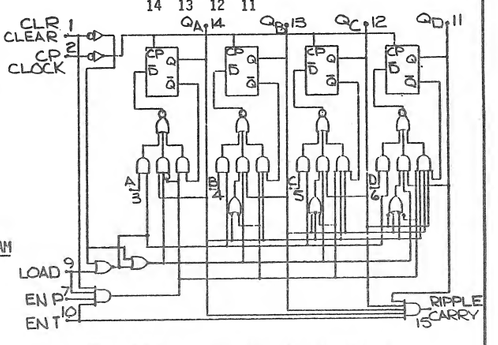
1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 16 PIN PLASTIC DIP PER CIPHER DATA PRODUCTS SPEC DWG. NO. 124000-002

CIPHER PART NO.	VENDOR	VENDOR PART NO.
123090-001	FAIRCHILD	74LS163PC
	AMD	AM74LS163APC
	NATIONAL	DM74LS163N
	MOTOROLA	SN74LS163AN
	SIGNETICS	N74LS163AN
	T.I.	SN74LS163AN
123090-002	AMD	AM25LS163APC

LOGIC SYMBOL



LOGIC DIAGRAM



123090-0XX STANDARD PART

123090-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

PART NUMBER 123090-XXX (SEE TABULATION)

REV	DESCRIPTION	APP/DATE
D	ECO 12016 REV'D RDRN	JAZ 8-23-82

DO NOT SCALE DRAWING
TOLERANCES .XX± .XXX± ANGULAR ±
MODEL
NEXT ASSY

cipher data products, inc.

I.C.,4-BIT BINARY COUNTER WITH SYNCHRONOUS RESET (25/74LS163)

CODE 109

DRAWN	BAKER	1/27/82	123090-000
CHECK	Pam Mapham	2/5/82	
APPR	Jess Kendrick	2/23/82	CODE IDENT 52465

SHEET 1 OF 1

D

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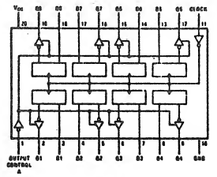
NOTES:

1. CASE - 20 Pin Plastic Dip
2. ELECTRICAL - Per applicable vendor data sheets

VENDOR	VENDOR PART NO.
AMD	AM74LS374PC
NATIONAL	DM74LS374N
FAIRCHILD	74LS374PC
TI	SN74LS374N
SIGNETICS	N74LS374N
MMI	SN74LS374N



123091-001 Standard Part

123091-101 Burned-In in accordance with CDP Spec. No. 190000.

Part No. 123091-XXX

cipher data products, inc.

OCTAL D FLIP-FLOPS, TRI-STATE LOW PWR SCHOTTKY (74LS374)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	E.C.O. 10096 N.L.	[illegible] 3450	3/6/80	
B	[illegible] N.L.	[illegible]	1/11/80	
A1	NEW FORMAT	LA	7/1/77	

DRAWN	C.Kelberlau	7/1/77
CHECK	[illegible]	7/2/77
APPR.	[illegible]	[illegible]

123091-000 C

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

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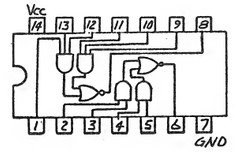
NOTES:

1. CASE - 14 Pin Plastic Dip Per Spec. Dwg. No. 124000-001
2. ELECTRICAL - Per Applicable Vendor Data Sheets

VENDOR	VENDOR PART NUMBER
AMD	AM74LS51PC
FAIRCHILD	74LS51PC
NATIONAL	DM74LS51N
SIGNETICS	N74LS51A
T. I.	SN74LS51N



LOGIC/PIN CONFIGURATION

Part No. 123093-001

cipher data products, inc.

I.C., DUAL 2-WIDE 2-INPUT/3-INPUT AND-OR INVERT GATE LOW PWR SCHOTTKY (74LS51)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	NEW FORMAT	CS	7/6/77	

DRAWN	C. Kelberlau	7/6/77
CHECK	[illegible]	7/6/77
APPR.	[illegible]	7/7/77

123093 A1

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

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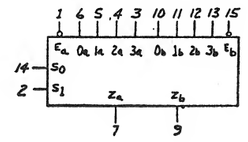
NOTES:

1. CASE - 16 Pin Plastic Dip Per Spec. Dwg. No. 124000-002.
2. ELECTRICAL - Per Applicable Vendor Data Sheets

VENDOR	VENDOR PART NO.
AMD	AM74LS153PC
FAIRCHILD	74LS153PC
NATIONAL	DM74LS153N
SIGNETICS	N74LS153B
T. I.	SN74LS153N



LOGIC/PIN CONFIGURATION

Part No. 123095-001

cipher data products, inc.

DUAL 4-LINE TO 1-LINE DATA SELECTORS/ MULTIPLEXERS, LOW PWR SCHOTTKY (74LS153)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	NEW FORMAT	CS	7/7/77	

DRAWN	C.Kelberlau	7/7/77
CHECK	[illegible]	7/7/77
APPR.	Jesse Kendrick	7/7/77

123095 A1

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

123096-000

NOTES:

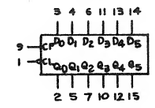
1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 16 PIN PLASTIC DIP PER CIPHER DATA PRODUCTS SPEC DWG. NO. 124000-002

CIPHER PART NO.	VENDOR	VENDOR PART NO.
123096-001	AMD	AM74LS174PC
	FAIRCHILD	74LS174PC
	NATIONAL	DM74LS174N
	SIGNETICS	N74LS174N
	TEXAS INSTRUMENTS	SN74LS174N
	MOTOROLA	SN74LS174N
123096-002	AMD	AM25LS174PC

123096-0XX STANDARD PART

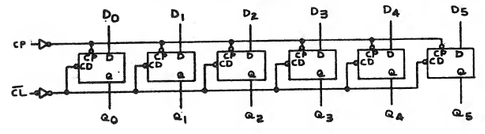
123096-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

LOGIC SYMBOL LS174



Vcc = PIN 15
GND = PIN 8

LOGIC DIAGRAM LS174



PART NUMBER 123096-XXX (SEE TABULATION)

REV	DESCRIPTION	DATE	APP'D
—	C ECO 12004	8/10/81	
D	ECO 13021	8/10/81	

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

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cipher data products, inc. GARDEN GROVE DIVISION

I.C., HEX D FLIP-FLOP WITH CLEAR (25/74LS174)

CODE 109

DRAWN	M.R.HOWARD	8/10
CHECK	T.WATSON	8/10/81
APPR	J. KENDRICK	8/10/81

123096-000 D

CODE IDENT 52465 | SHEET 1 OF 1

FORM 201 (R 11/80)

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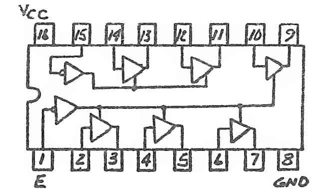
NOTES:

1. CASE - 14 Pin Plastic Dip Per Spec. Drawing No. 124000-002.
2. ELECTRICAL - Per Applicable Vendor Data Sheets

VENDOR	VENDOR PART NO.
AMD	AM74LS367PC
FAIRCHILD	74LS367PC
NATIONAL	DM74LS367N
SIGNETICS	N74LS367B
T. I.	SN74LS367N
Motorola	SN74LS367AN



LOGIC/PIN CONFIGURATION

123097-001 - STANDARD PART
123097-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000.

Part No. 123097-XXX

cipher data products, inc.

HEX 3-STATE BUFFER, SEPARATE 2-BIT SECTIONS, LOW PWR SCHOTTKY (74LS367)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
B	CR/O 9562 JEH		9/17/79	
A2	CR/O 9190		4/11/79	
A1	NEW FORMAT		7/7/77	

REVISIONS

DRAWN C. Kelberlau 7/7/77
CHECK 7/7/77
APPR. Jess Kendrick 7/7/77

123097-000 B

DO NOT SCALE THIS DRAWING — SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 16 PIN PLASTIC DIP PER CIPHER DATA PRODUCTS SPEC DWG. NO. 124000-002

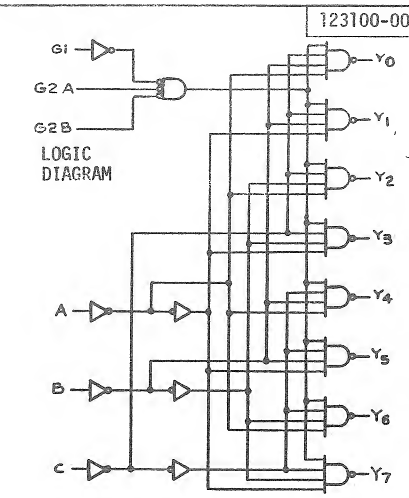
CIPHER PART NO.	VENDOR	VENDOR PART NO.
123100-001	AMD	AM74LS138PC
123100-001	FAIRCHILD	74LS138PC
123100-001	NATIONAL	DM74LS138N
123100-001	SIGNETICS	N74LS138A
123100-001	TEXAS INST.	SN74LS138N
123100-002	AMD	AM25LS138PC

123100-0XX STANDARD PART

123100-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

123100-000

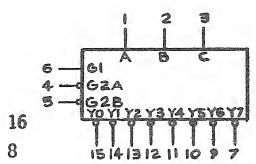
LOGIC DIAGRAM



LOGIC SYMBOL

Vcc= Pin 16

GND= Pin 8



PART NUMBER 123100 -XXX(SEE TABULATION)

REV	DESCRIPTION	APP/DATE
—	MFG REL	
A	REV. & REDRAWN	
C	ECO 12005	

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

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cipher data products, inc. GARDEN GROVE DIVISION

I.C., DECODER/DEMULTIPLEXER 3-LINE TO 8-LINE (25/74LS138)

CODE 109

DRAWN C.KELBERLAU 3/3/77
CHECK T. WATSON 3/3/77
APPR J. KENDRICK 3/3/77

123100-000 C

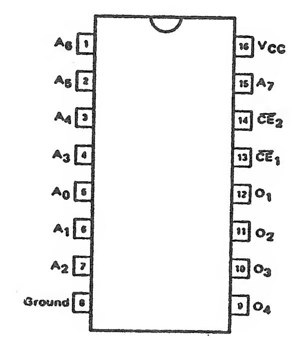
CODE IDENT 52465 SHEET 1 OF 1

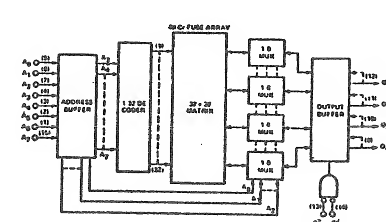
FORM 201 (R 11/80)

NOTES:

1. CASE - 16 Pin Plastic or Ceramic Per Spec. Dwg., No. 124000-002.
2. MECHANICAL & ELECTRICAL - Per Applicable Vendor Data Sheet

VENDOR	VENDOR PART NO.
Signetics	N82S129N,N82S129F
Fairchild	93427PC,93427DC
NATIONAL	DM74S287N





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Part No. 123106-001

cipher data products, inc.

I.C., 1024-BIT BIPOLAR PROGRAMMABLE ROM (256X4 PROM) WITH TRI-STATE OUTPUTS

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
E	ECO 12298 JAZ	KAM 6/21/82	6/22/82	
D	ECO 12136	KAM 4/23/82	4/26/82	
C	CR/O 9834 1-7-80	1-10-80	1/11/80	
B	CR/O 9340		7/3/79	
A1	CR/O - 8996 D. ULLOA	P.C. 1-13-79	3/19/79	
A	MFG. RELEASE		4/21/77	

REVISIONS

DRAWN C. Kelberlau 4/21/77
CHECK 4/21/77
APPR. Jess Kendrick 4/21/77

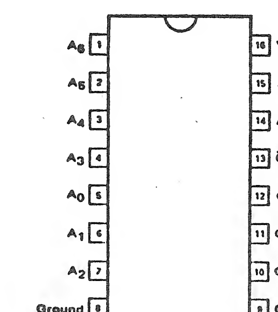
123106-000 E

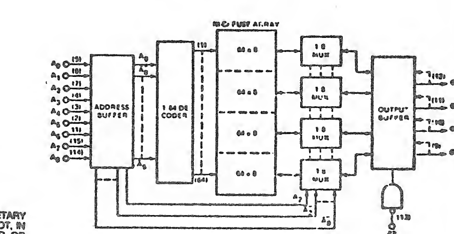
DO NOT SCALE THIS DRAWING — SHEET 1 of 1

NOTES:

1. CASE - 16 Pin Plastic or Ceramic Per Spec Dwg. 124000-002.
2. ELECTRICAL & MECHANICAL - Per Applicable Vendor Data Sheet

VENDOR	VENDOR P/N
Signetics	N82S131N,N82S131F
Harris	HM1-7621-5,HM3-7621-5
Fairchild	93446PC,93446DC
AMD	AM27S13DC
NATIONAL	DM74S571N





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Part No. 123107-001

cipher data products, inc.

I.C., 2048-BIT BIPOLAR PROGRAMMABLE ROM (512X4 PROM), WITH TRI-STATE OUTPUTS

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	ECO 12136	KAM 4/23/82	4/26/82	
B	CR/O 9834 1-7-80	1-10-80	1/11/80	
A1	CR/O - 8996 D. ULLOA	1-13-79	3/19/79	
A	MFG. RELEASE		4/21/77	

REVISIONS

DRAWN C. Kelberlau 4/21/77
CHECK 4/21/77
APPR. 4/21/77

123107-000 C

DO NOT SCALE THIS DRAWING — SHEET 1 of 1

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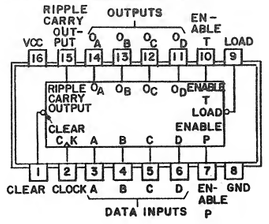
NOTES:

1. CASE - 16 Pin Plastic DIP Per Spec Dwg. No. 124000-002
2. ELECTRICAL - Per Applicable Vendor Data Sheet



VENDOR	VENDOR PART NO.
Texas Inst.	SN74S163N

Part No. 123119-001

cipher

I.C., SYNCHRONOUS 4-BIT COUNTER (74S163)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	MFG. RELEASE	[illegible]	6/9/77	[illegible]

DRAWN	C. Kelberlau	6/9/77	123119
CHECK	[illegible]	6/9/77	
APPR.	[illegible]	6/9/77	

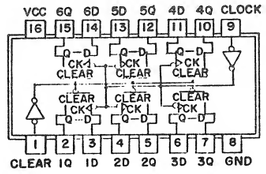
SIZE A

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

NOTES:

1. CASE - 16 Pin Plastic DIP Per Spec. Dwg. No. 124000-002
2. ELECTRICAL - Per Applicable Vendor Data Sheet



LOGIC / PIN CONFIGURATION

VENDOR	VENDOR PART NO.
Texas Inst.	SN74S174N
Signetics	N74S174N
Fairchild	74S174PC
National	DM74S174N
AMD	SN74S174N

123120-001 - STANDARD PART
123120-101 - BURNED-IN IN ACCORDANCE WITH CDP SPEC NO. 190000.

Part No. SEE TABULATION

cipher

I.C., HEX D-TYPE FLIP-FLOPS WITH CLEAR (74S174)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
C	E.C.O. 10016 ML.	[illegible]	3/4/80	[illegible]
B	CR/O 9562 JEHR	[illegible]	9/7/79	[illegible]
A1	CR/O 8946 SAB	[illegible]	1/15/79	[illegible]
A	MFG. RELEASE	[illegible]	6/9/77	[illegible]

DRAWN	C. Kelberlau	6/9/77	123120-000
CHECK	[illegible]	6/9/77	
APPR.	[illegible]	6/9/77	

SIZE C

REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

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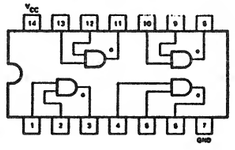
QUAD 2-INPUT AND GATE (WITH OPEN-COLLECTOR OUTPUT)



NOTES:

1. CASE - 14 Pin Plastic DIP Per Spec Dwg. No. 124000-001
2. ELECTRICAL - Per Applicable Vendor Data Sheet

VENDOR	VENDOR PART NO.
Signetics	SN74LS09N
Fairchild	SN74LS09N
Texas Inst.	SN74LS09N

Part No. 123123-001

cipher

I.C., QUAD 2-INPUT AND GATE WITH OPEN COLLECTOR OUTPUT (74LS09)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	MFG. RELEASE	[illegible]	6/22/77	[illegible]

DRAWN	C. Kelberlau	6/22/77	123123
CHECK	[illegible]	6/22/77	
APPR.	[illegible]	6/22/77	

SIZE A

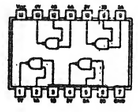
REVISIONS | DO NOT SCALE THIS DRAWING | SHEET 1 of 1

FORM 495 (12/76)

123149

NOTES

1. CASE: 14 Pin Plastic DIP Per Spec. Dwg. No. 124000-001
2. ELECTRICAL: Per Applicable Vendor Data Sheet.



VENDOR	PART NUMBER
TEXAS INST.	SN74LS01N
SIGNETICS	SN74LS01N
FAIRCHILD	SN74LS01N
AMD	SN74LS01N

PART NUMBER 123149-001

REV	DESCRIPTION	APP/DATE
A	MFG RCL	[illegible]

DO NOT SCALE DRAWING

TOLERANCES .XX± ANGULAR ± .XXX± ±

MODEL

NEXT ASSY

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER DATA PRODUCTS, INC. AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

¾"

cipher data products, inc.

I.C., QUAD 2-INPUT POSITIVE NAND GATE W/OPEN COLL. (74LS01)

CODE 109

DRAWN	C.Kelberlau	7/8/78	123149
CHECK	[illegible]	7/8/78	
APPR	[illegible]	7/10/78	CODE IDENT 52465

SIZE A

SHEET 1 OF 1

FORM 201 (R. 8/77)

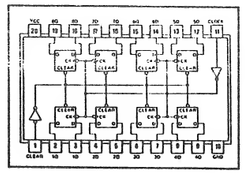
123152-000

NOTES

1. CASE: 20 Pin Plastic DIP Per Spec. Dwg. No. 124000-006

2. ELECTRICAL: Per Applicable Vendor Data Sheet

VENDOR	VENDOR P/N
TEXAS INST.	SN74LS273N
AMD	SN74LS273N
FAIRCHILD	74LS273PC



REV	DESCRIPTION	APP/DATE
A	MFG. REL	3/27/78 KAM
B	ECO 12328	7/12/78

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER DATA PRODUCTS, INC. AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

PART NUMBER 123152-001

3/4"

cipher data products, inc.

I.C., OCTAL D-TYPE FLIP-FLOP WITH CLEAR (74LS273)

CODE 109

DRAWN	C.Kelberlau	3/27/78	123152-000 B
CHECK	[illegible]	3/27/78	
APPR	[illegible]	3/27/78	CODE IDENT 52465 SHEET 1 OF 1

FORM 201 (R. 8/77)

CC

123192

DESCRIPTION

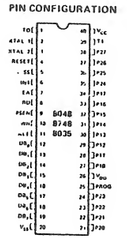
GENERAL: 8-Bit CPU, ROM, RAM, I/O in single package. 2.5μsec and 5.0μsec versions. All instructions 1 or 2 cycles. Over 90 instructions: 70% Single Byte. 1K x B ROM/EPROM, 64 x 8 RAM, 27 I/O lines. Interval Timer/Event Counter, Expandable Memory and I/O. Compatible with 8000 series peripherals. Single level interrupt. Single 5V supply.

PACKAGE: 40 PIN Dual in Line.

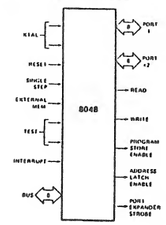
ELECTRICAL: Per applicable vendor data sheet.

VENDOR	VENDOR PART NO.
INTEL	8035

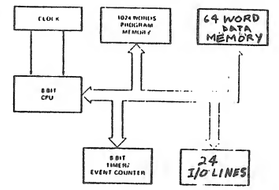
PIN CONFIGURATION



LOGIC SYMBOL



BLOCK DIAGRAM



REV	DESCRIPTION	APP/DATE
A	MFG. REL	8/23/78

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

PART NUMBER 123192-001

cipher data products, inc.

I.C., SINGLE COMPONENT 8-BIT MICRO COMPUTER (8035)

CODE 109

DRAWN	L. Hale	8-22-78	123192 A
CHECK	[illegible]	8-22-78	
APPR	[illegible]	8-23-78	CODE IDENT 52465 SHEET 1 OF 1

FORM 201 (R. 8/77)

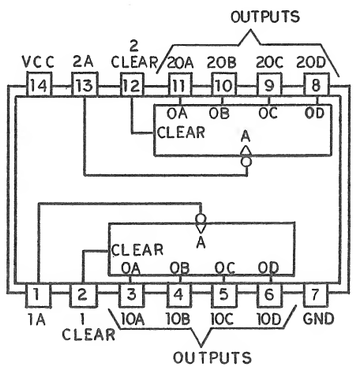
123203-000

NOTES:

1. CASE- 14 PIN PLASTIC DIP PER SPEC. DWG. 124000-001.

2. ELECTRICAL- PER APPLICABLE VENDER DATA SHEET.

VENDER	VENDER PART NO.
TEXAS INST.	SN74LS393N
FAIRCHILD	74LS393PC
SIGNETICS	N74LS393N
MOTOROLA	SN74LS393N



REV	DESCRIPTION	APP/DATE
A	MFG. REL.	9/26/80 RJC
B	ECO 10891	9/26/80

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

PART NUMBER 123203-001

cipher data products, inc.

I.C., DUAL 4 STAGE BINARY COUNTER (74LS393)

CODE 109

DRAWN	M. LaBelle	9-22-80	123203-000 A
CHECK	CUMMISKEY	9-26-80	
APPR	[illegible]	9/26/80	CODE IDENT 52465 SHEET 1 OF 1

123231-000

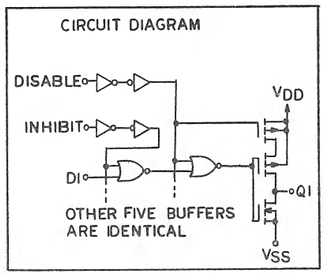
NOTES;

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.

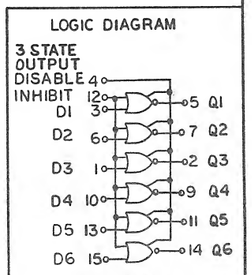
2. PACKAGE: 16 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-002

VENDOR	VENDOR PART NO.
RCA MOTOROLA SGS	CD4502BE MC14502BCP HCF4502BE

CIRCUIT DIAGRAM



LOGIC DIAGRAM



123231-0XX STANDARD PART

123231-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

TRUTH TABLE

Dn	INHIBIT	DISABLE	Qn
0	0	0	1
1	0	0	0
X	1	0	0
X	X	1	HIGH IMPEDANCE

DSC: R

REV	DESCRIPTION	APP/DATE
A	PROD. REL	8/20/82 RJC 9/26/82
B	ECO 12300	9/26/82
C	EC012872	9/26/82

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

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PART NUMBER 123231-XXX

cipher data products, inc.

I.C.,STROBED HEX INVERTER/BUFFER-CMOS (4502B)

CODE 109

DRAWN	T.LINDMAN	1-29-82	123231-000 C
CHECK	[illegible]	1/29/82	
APPR	[illegible]	3/26/82	CODE IDENT 52465 SHEET 1 OF 1

NOTES:

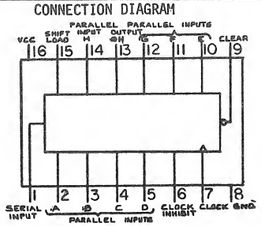
1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 16 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-002

VENDOR	VENDOR PART NO.
MOTOROLA	SN74LS166N
NATIONAL	DM74LS166N
TEXAS INST.	SN74LS166AN

123232-001 STANDARD PART

123232-101 BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

CONNECTION DIAGRAM — 123232-000



54166 (J,W) 74166 (N)
54LS166 (J,W) 74LS166 (N)

Truth Table

Inputs						Internal Outputs		Output
Clear	Shift/ Load	Clock Inhibit	Clock	Serial	Parallel A...H	Q_A	Q_B	Qn
L	X	X	X	X	X	L	L	L
H	X	L	↑	X	a...h	Q_{A0}	Q_{B0}	Q_{H0}
H	L	H	↑	H	X	a	b	h
H	H	L	↑	L	X	H	Q_{An}	Q_{Gn}
H	H	X	↑	X	X	L	Q_{An}	Q_{Gn}
H	X	H	↑	X	X	Q_{A0}	Q_{B0}	Q_{H0}

H = High Level (steady state), L = Low Level (steady state)
X = Don't Care (any input, including transitions)
↑ = Transition from low to high level
a...h = The level of steady-state input at inputs A through H, respectively
Q_{A0}, Q_{B0}, Q_{H0} = The level of Q_A, Q_B, Q_H, respectively, before the indicated steady-state input conditions were established
Q_{An}, Q_{Gn} = The level of Q_A, Q_G, respectively, before the most recent ↑ transition of the clock

DSC: R PART NUMBER 123232-XXX

REV	DESCRIPTION	APP/DATE
A	PROD. REL., ERO #20299	
B	ECO 12301	

DO NOT SCALE DRAWING
TOLERANCES .XX± .XXX± ANGULAR ±

cipher data products, inc. GARDEN GROVE DIVISION

MODEL
NEXT ASSY

I.C.,8-BIT PARALLEL IN/SERIAL OUT SHIFT REGISTER (74LS166) — CODE 109

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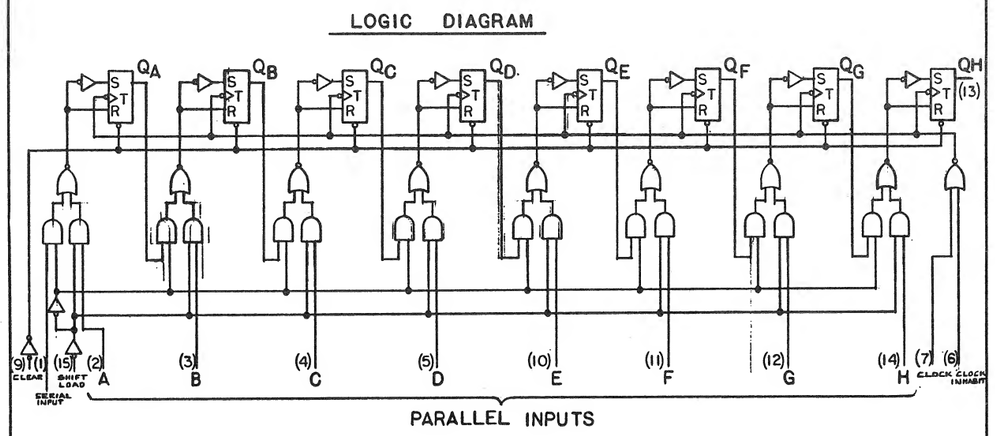
DRAWN R. Baumgarten 2-2-82 — 123232-000 — B
CHECK Kam Mahrani 2/3/82
APPR Jim Kendrick 3/30/82 — CODE IDENT 52465 — SHEET 1 OF 2

FORM 201 (R 11/80)

LOGIC DIAGRAM



I.C., 8-BIT PARALLEL IN/SERIAL OUT SHIFT REGISTER (74LS166) — B — 123232-000 — SHEET 2 OF 2

FORM 202 (R.8/77)

NOTES:

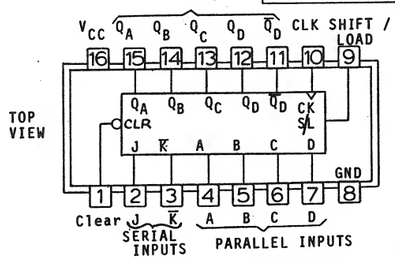
1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 16 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-002

VENDOR	VENDOR PART NO.
TEXAS INST.	SN74LS195AN
SIGNETICS	N74LS195N
NATIONAL	DM74LS195N

123233-0XX STANDARD PART

123233-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

OUTPUTS — 123233-000



POSITIVE LOGIC: SEE FUNCTION TABLE

DSC: R PART NUMBER 123233-XXX

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ERO #20299	

DO NOT SCALE DRAWING
TOLERANCES .XX± .XXX± ANGULAR ±

cipher data products, inc.

MODEL
NEXT ASSY

I.C., 4-BIT, PARALLEL ACCESS SHIFT REGISTER — CODE 109

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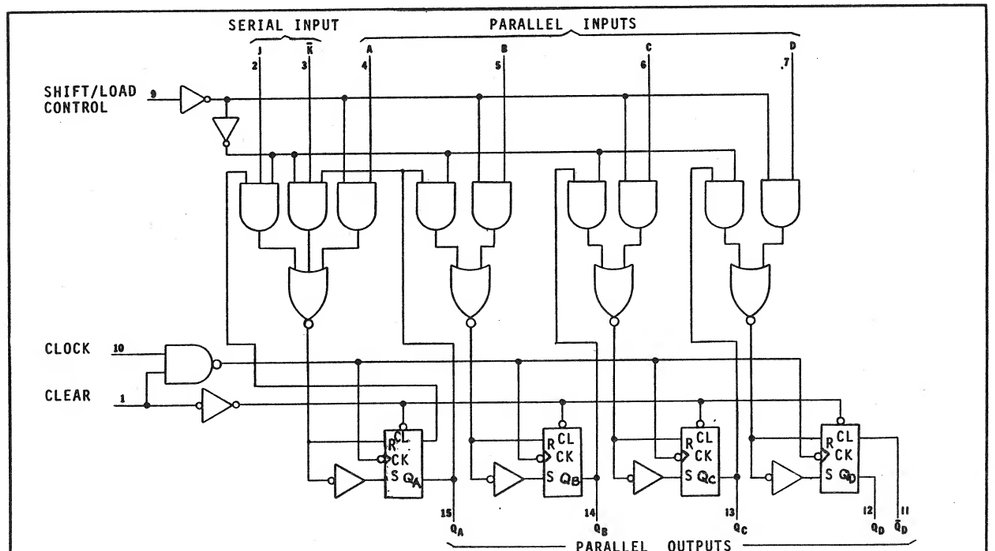
DRAWN D.WILSON JAN2982 — 123233-000 — A
CHECK Kam Mahrani 2/1/82
APPR Jim Kendrick 3/30/82 — CODE IDENT 52465 — SHEET 1 OF 3

FORM 201 (R 11/80)



FUNCTIONAL BLOCK DIAGRAM

1.C., 4-BIT, PARALLEL ACCESS SHIFT REGISTER — cipher — A — 123233-000 — SHEET 2 OF 3

FORM 202 (R.8/77)

INPUTS								OUTPUTS				
			SERIAL		PARALLEL							
CLEAR	SHIFT/ LOAD	CLOCK	J	K	A	B	C	D	Q_A	Q_B	Q_C	Q_D	$\bar{Q}_D$
L	X	X	X	X	X	X	X	X	L	L	L	L	H
H	L	↑	X	X	a	b	c	d	a	b	c	d	$\bar{d}$
H	H	L	X	X	X	X	X	X	Q_{AO}	Q_{BO}	Q_{CO}	Q_{DO}	$\bar{Q}_{DO}$
H	H	↑	L	H	X	X	X	X	Q_{AO}	Q_{AO}	Q_{Bn}	Q_{Cn}	$\bar{Q}_{Cn}$
H	H	↑	L	L	X	X	X	X	L	Q_{An}			
H	H	↑	H	H	X	X	X	X	H				
H	H	↑	H	L	X	X	X	X	$\bar{Q}_{An}$	Q_{An}	Q_{Bn}	Q_{Cn}	$\bar{Q}_{Cn}$

FUNCTION TABLE

H = high level (steady state)

L = low level (steady state)

X = irrelevant (any input, including transitions)

↑ = transition from low to high level.

a,b,c,d, = the level of steady state input at A,B,C,or D, respectively.

Q_{AO},Q_{BO}, Q_{CO}, Q_{DO}= the level of Q_A,Q_B,Q_C,or Q_D,respectively, before the indicated steady state input conditions were established.

Q_{An},Q_{Bn},Q_{Cn} = the level of Q_A, Q_B, or Q_C, respectively, before the most recent transition of the clock.

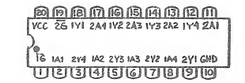
I.C., 4-BIT PARALLEL ACCESS SHIFT REGISTER	cipher	A
	123233-000	SHEET 3 OF 3

FORM 202 (R-8/77)

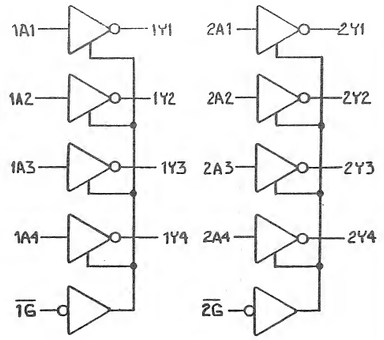
123234-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 20 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-005



VENDOR	VENDOR PART NO.
AMD	SN74S240N
FAIRCHILD	74S240PC
NATIONAL	DM74S240N
T.I.	SN74S240N



123234 -0XX STANDARD PART

123234 -1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

DSC: R

PART NUMBER 123234-XXX

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ECO 820299	

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

cipher data products, inc.

I.C.,OCTAL BUFFER/LINE DRIVER,TRI-STATE OUTPUTS (74S240)

CODE 109

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF PERKIN-ELMER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE PERKIN-ELMER MEMORY PRODUCTS DIVISION.

DRAWN	D.WILSON	1-26-82	123234-000 A
CHECK	Ram Mathrani	1/29/82	
APPR	Jess Kendrick	3/30/82	CODE IDENT 52465 SHEET 1 OF 1

FORM 201 (R 11/80) ,

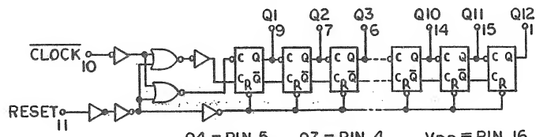
123235-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 16 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-002

VENDOR	VENDOR PART NO.
MOTOROLA	MC14040BCP
NATIONAL	CD4040CN
SGS	HCF4040BE

LOGIC DIAGRAM



Q4 = PIN 5 Q7 = PIN 4 V_{DD} = PIN 16
Q5 = PIN 3 Q8 = PIN 13 V_{SS} = PIN 8
Q6 = PIN 2 Q9 = PIN 12

123235-0XX STANDARD PART

123235-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

DSC: R

PART NUMBER 123235 -XXX

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ECO 820299	
B	ECO 12872	

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

cipher data products, inc.

I.C., 12-STAGE RIPPLE-CARRY BINARY COUNTER/ DIVIDER (4040)CMOS

CODE 109

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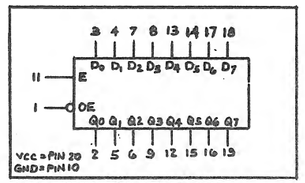
DRAWN	T.LINDMAN	1-29-82	123235-000 B
CHECK	Ram Mathrani	2/1/82	
APPR	Jess Kendrick	3/30/82	CODE IDENT 52465 SHEET 1 OF 1

FORM 201 (R 11/80) ,

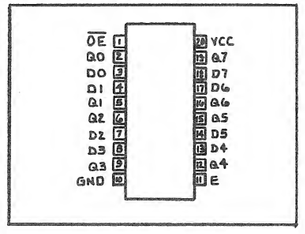
123237-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 20 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-005



PIN CONFIGURATION



VENDOR	VENDOR PART NO.
NATIONAL	DM74LS373N
AMD	SN74LS373N
T.I.	SN74LS373N
SIGNETICS	N74LS373N
FAIRCHILD	74LS373PC
MOTOROLA	SN74LS373N

123237-0XX STANDARD PART

123237-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

PART NUMBER 123237-XXX

DSC: R

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ECO 820299	
B	ECO 12352	
00		

DO NOT SCALE DRAWING

TOLERANCES .XX± .XXX± ANGULAR ±

MODEL

NEXT ASSY

cipher GARDEN GROVE DIVISION

I.C.,OCTAL TRANSPARENT LATCH W/3-STATE OUTPUTS (74LS373)

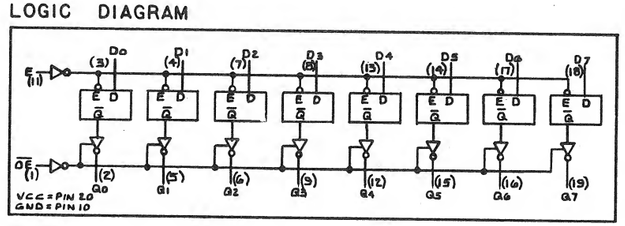
CODE 109

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF PERKIN-ELMER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE PERKIN-ELMER MEMORY PRODUCTS DIVISION.

DRAWN	Baumgarten	1-2-82	123237-000 B
CHECK	Ram Mathrani	2/2/82	
APPR	Jess Kendrick	3/30/82	CODE IDENT 52465 SHEET 1 OF 2

FORM 201 (R 11/80) ,

LOGIC DIAGRAM



I.C., OCTAL TRANSPARENT LATCH W/3 - STATE OUTPUTS (74LS373)

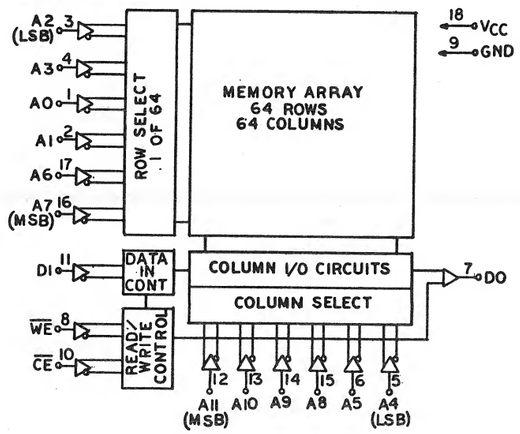
cipher data products, inc. GARDEN GROVE DIVISION

B

123237-000 SHEET 2 OF 2

FORM 202 (R.8/77)

BLOCK DIAGRAM



I.C., 4096 X 1 STATIC R/W RANDOM ACCESS MEMORY (91L24)

cipher data products, inc.

B

123238-000 SHEET 2 OF 2

123238-000

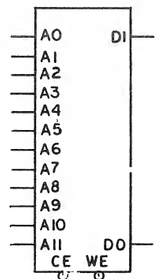
NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 18 PIN DIP CIPHER DATA PRODUCTS SPEC, DWG NO. 124000 - 006

VENDOR	VENDOR PART NO.
AMD	AM21L41-25PC, AM21L41-25DC
NATIONAL	MM5257N-25
INTEL	P2141-5

123238 -0XX STANDARD PART

123238 -1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.



LOGIC SYMBOL

$\overline{CE}$	$\overline{WE}$	DI	DOUT	MODE
H	X	X	Hi-Z	NOT SELECTED
L	L	H	Hi-Z	WRITE 1
L	L	L	Hi-Z	WRITE 0
L	H	X	DOUT	READ

DSC: R

PART NUMBER 123238-XXX

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ERO 820299	[illegible] 3/26/82
B	ECO 12680	[illegible] 3/30/82

DO NOT SCALE DRAWING

TOLERANCES .XX± ANGULAR .XXX± ±

MODEL

NEXT ASSY

cipher data products, inc.

I.C., 4096 X 1 STATIC R/W RANDOM ACCESS MEMORY (21L41) CODE 109

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DRAWN T.LINDMAN 2-1-82 | CHECK Kam Mahlmann 2/1/82 | APPR Jean Kendrick 3/24/82

123238-000 B

CODE IDENT 52465 SHEET 1 OF 2

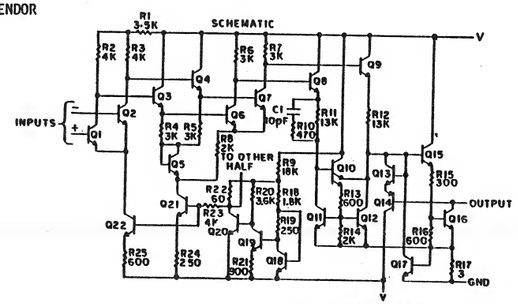
FORM 201 (R 11/80)

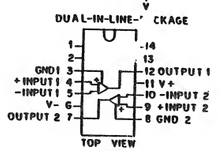
123239-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET
2. PACKAGE: 14 PIN DIP PER CIPHER DATA PRODUCTS SPEC. DWG. NO. 124000-001

VENDOR	VENDOR PART NO.
AMD	LM319N
NATIONAL	LM319N
SIGNETICS	LM319N





DSC: R

PART NUMBER: 123239-001

REV	DESCRIPTION	APP/DATE
A	PROD. REL. ERO 820323	[illegible] 3/30/82

DO NOT SCALE DRAWING

TOLERANCES: .XX± ANGULAR .XXX± ±

MODEL:

NEXT ASS'Y:

cipher data products, inc. GARDEN GROVE DIVISION

I.C., HIGH SPEED DUAL COMPARITOR (LM319) CODE 109

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DRAWN M. Stewart 3/2/82 | CHECK Kam Mahlmann 3/3/82 | APPR. Jean Kendrick 3/30/82

123239-000 A

CODE IDENT: SHT. 1 of 1

123240-000

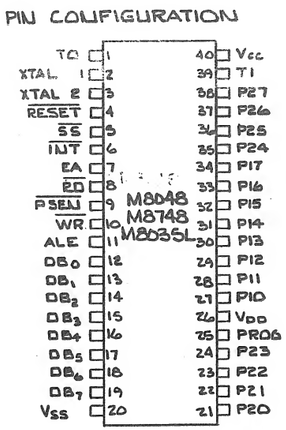
NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET

2. PACKAGE: 40 PIN DIP

VENDOR	VENDOR PART NO.
INTEL	D8748
NEC	D8748D

PIN CONFIGURATION



REV	DESCRIPTION	APP/DATE
A	PROD. REL. ER0820322R	KAM
B	ECO 12587	
C	ECO 12659	

DSC: R

PART NUMBER: 123240-001

DO NOT SCALE DRAWING

TOLERANCES:
.XX± ANGULAR
.XXX± ±

cipher data products, inc.
GARDEN GROVE DIVISION

MODEL:
NEXT ASS'Y:

I.C., SINGLE COMPONENT 8-BIT MICRO COMPUTER (8748)

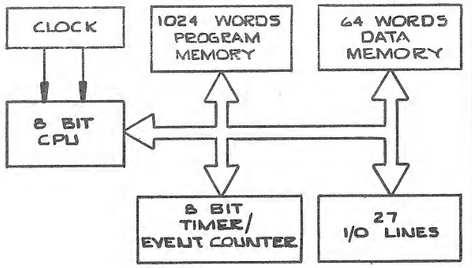
CODE 109

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.

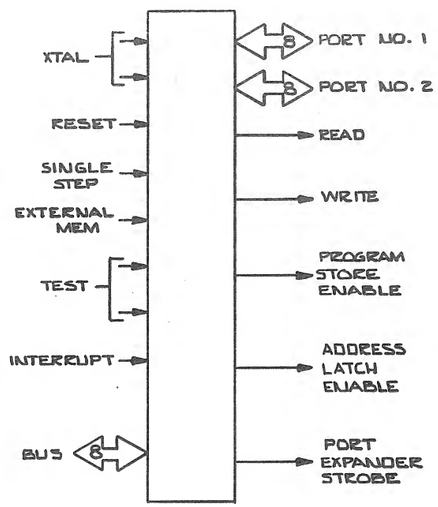
DRAWN	MATTHES	3/1/82	123240-000 C
CHECK	Ken Mathias	3/2/82	
APPR.	Jess Kendrick	4/22/82	CODE IDENT: SHT. 1 of 2

FORM 201 (R 01/82)

BLOCK DIAGRAM



LOGIC SYMBOL

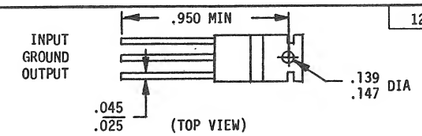


I.C., SINGLE COMPONENT 8-BIT MICRO COMPUTER (8748)

cipher data products, inc. GARDEN GROVE DIVISION

123240-000 SHT. 2 of 2

FORM 202 (R 01/82)



125006-000

NOTES:

1. CASE TYPE: TO-220
2. ELECTRICAL: Per Applicable Vendor Data Sheets.

CDP PART NO.	OUTPUT VOLTAGE	FAIRCHILD PART NO.	MOTOROLA PART NO.	TEXAS INSTRUMENT PART NO.	NATIONAL PART NO.	SIGNETICS PART NO.
125006-005	5	UA 7805UC	MC 7805CT	UA7805CKC	LM7805CT	UA7805CU
-006	6	UA 7806UC	MC 7806CT	UA7806CKC	LM7806CT	UA7806CU
-008	8	UA 7808UC	MC 7808CT	UA7808CKC	LM7808CT	UA7808CU
-012	12	UA 7812UC	MC 7812CT	UA7812CKC	LM7812CT	UA7812CU
-015	15	UA 7815UC	MC 7815CT	UA7815CKC	LM7815CT	UA7815CU
-018	18	UA 7818UC	MC 7818CT	UA7818CKC	LM7818CT	UA7818CU

REV	DESCRIPTION	APP/DATE
B	CR/O 8576 REV'D	5/22/78
C	ECO 12499	10/13/78
D	ECO 12499	12/8/78

PART NUMBER 125006-XXX SEE TABULATION

DO NOT SCALE DRAWING

TOLERANCES
.XX± —— ANGULAR
.XXX± —— ± ——

MODEL ——
NEXT ASSY ——

cipher data products, inc.

I.C., POSITIVE 3 TERMINAL REGULATOR (TO-220 TYPE CASE, 7800 SERIES)

CODE 109

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DRAWN	L. HALE	5/22/78	125006-000 D
CHECK	V. WATSON	5/22/78	
APPR	J. KENDRICK	5/22/78	CODE IDENT 52465 SHEET 1 OF 1

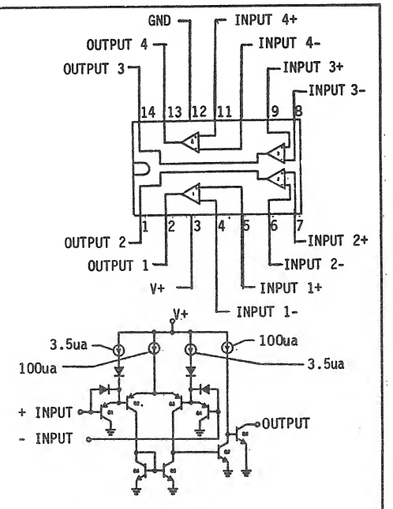
FORM 201 (R 1-79) RISHOP GRAPHICS/ACCUPRESS

NOTES:

1. CASE - 14 Pin Plastic Dip Per Spec. Dwg. No. 124000-001

2. ELECTRICAL - Per Applicable Vendor Data Sheet

VENDOR	VENDOR P/N
National Semiconductor	LM339AN
Motorola	MLM339AP



Part No. 125011-001

cipher

I.C., VOLTAGE COMPARITORS, QUAD (LM339A)

CODE 109

REV.	DESCRIPTION	CHK.	DATE	APPROVED
A1	CR/O 8126		10/18/77	
A	MFG. RELEASE		7/8/77	

REVISIONS

DRAWN	C.Kelberlau	7/8/77	125011 A1
CHECK	V.Watson	7/8/77	
APPR.	Jess Kendrick	7/8/77	

DO NOT SCALE THIS DRAWING

SHEET 1 of 1

FORM 495 (12/76)

THIS DRAWING CONTAINS PROPRIETARY INF[illegible]ND M[illegible]U- PL[illegible]OR M[illegible]SED HI[illegible]EN PERMISSION OF THE [illegible]HER MEMORY PRODUCTS DIVISION

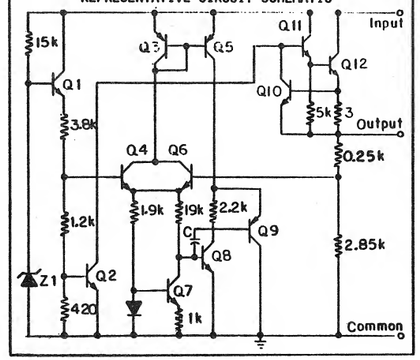
125017-000

DESCRIPTION:

1. CASE: TO-92 (JEDEC)
2. ELECTRICAL: Per Applicable Vendor Data Sheets.

P-E P/N	VOLTAGE	MOTOROLA P/N	FAIRCHILD P/N
125017-005	5	MC78L05CP	UA78L05AWC
-012	12	MC78L12CP	UA78L12AWC
-015	15	MC78L15CP	UA78L15AWC

REPRESENTATIVE CIRCUIT SCHEMATIC



P SUFFIX
CASE 29
TO-92

Pin 1. Output
2. Ground
3. Input

PART NUMBER 125017-XXX SEE TABULATION

REV	DESCRIPTION	APP/DATE
A	MFG REL PROD REL PER CR# 9518	8/26/77
B		
C	ECO 10975	

DO NOT SCALE DRAWING
TOLERANCES
.XX± ANGULAR
.XXX± ± .....

cipher data products, inc.

MODEL
NEXT ASSY

I.C., POSITIVE 3-TERMINAL REGULATOR (78L00CP SERIES)

CODE 109

DRAWN	M.R.HOWARD	8/16	125017-000 C
CHECK	J. WATSON	8/26/77	
APPR	J. KENDRICK	8/26/77	CODE IDENT 52465 SHEET 1 OF 1

FORM 201 (R 1-79) BISHOP GRAPHICS/ACCUPRESS

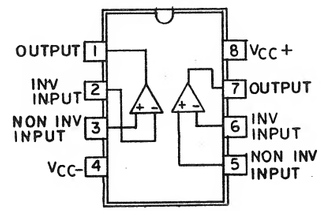
125040-000

NOTES:

1. ELECTRICAL CHARACTERISTICS: PER APPLICABLE VENDOR DATA SHEET.
2. PACKAGE: 8 PIN DIP PER CIPHER DATA PRODUCTS SPEC DWG NO. 124000-003

VENDOR	VENDOR PART NO.
TEXAS INST.	TL082BP
RCA	CA3240E
NATIONAL	LF353N

TL082B



125040-0XX STANDARD PART

125040-1XX BURNED-IN IN ACCORDANCE WITH CIPHER DATA PRODUCTS SPEC NO. 190000.

PART NUMBER 125040 -XXX DSC: R

REV	DESCRIPTION	APP/DATE
A	PROD.REL. per ECO 620299 Rev	2/30/82

DO NOT SCALE DRAWING
TOLERANCES
.XX± ANGULAR
.XXX± ±

cipher data products, inc.

MODEL
NEXT ASSY

I.C., J-FET INPUT OPERATIONAL AMPLIFIER (TL082B)

CODE 109

DRAWN	T.LINDMAN	1-29-82	125040-000 A
CHECK	Ram Makhan	2/1/82	
APPR	Jim Kendrick	2/30/82	CODE IDENT 52465 SHEET 1 OF 1

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FORM 201 (R 11/80)

REVISIONS				207002-200 A
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	ENG. REL. 9-2-91	[illegible]	[illegible]	CK 11/11/91
01	PIL REL ERO 820309	KMM	3/3/92	
01.	ECO 12315	KMM	6/23/92	
A	PROD. REL. ERO 8204.21/A	KMM	4/5/93	

J2-1 +24V
J2-2 +24R
J2-3 +5R
J2-4 +5V
C32 35V
C35 C24 C26 C27 C29 C30 C31 C36 C40
TP6
CR19 CR20
R70 ½W
4B
C33
C34 20V
+24V
+12V
+5V

J1-16 SEL3-
J1-18 SEL2-
J1-20 SEL1-
J1-22 SELØ-
2B
R81
7D
SELD
J17
CR16 ACTIVITY LED (RED)

J1-6 TR3-
J1-8 TR2-
J1-10 TR1-
J1-12 TRØ-
J1-4 REV-
J1-2 GO-
1C
TRØ
TRØ

CLK
CLK
10
R56
Y1 3.5795MHz
C50
2D
R58
R61
CR18
C28 10V
R60
R59
CF0
CF1

3-4C
Vcc Vdd Vss
XTAL1
XTAL2
RESET
EA
PSEN
WR
PROG
P16
P15
P17
P26
P21
P20
P25
P24
T1
ALE
INT
B6 P14 B5 B7 B4 B3
P23 P22 P13 P12 P11 P10 B2 B1 BØ

R97
Q7
Q6
R36
R38
CR25
CR24
CR23 CR22 CR21
RESET- J1-14

WEN
STPEN
5C
5Ba 5Ba 5Bb 5Bb
R62 2W
CR12 CR11
R83 R82
R84 R85
CR13 CR14
J3
2 7 6 5 4 1 3 KEY

ONE A
ONE B
7C 7C
3D 3D
SEEV
SFWD
J4
C42
C41
KEY

R57
CF2
HSPD- J1-46

TP8 TP9
T2
T1
2A
UTH- J1-28
LTH- J1-30
CIN- J1-34
USF- J1-36
SPARE- J1-44
SELD

R54
R69
C51
C52
SAFE

R71 R76 R73 R74 R75 R72
C38 10V C39
R67 R65 R66
6C
C37
TACH

J5
TACH - 3
GND 2
TACH + 1
R87 R86 R89 R88
C43 C45 C44

HOLE LED
UPPER HOLE
LOWER HOLE
CIN SWITCH CIN=CLOSED
USF SWITCH USF=CLOSED
KEY
J6
R90
R79 R78
C46 R77
R92 R91
C47
C48 R63 R64
R93 R94
C49
R80
R55
ONE A
6D
4D

J7
1 2 3

1. USE PARTS LIST 207002-001 OR 002.

NOTES: UNLESS OTHERWISE SPECIFIED

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IC DESIGNATORS

LOCATION	TYPE	PWR	GND	LOCATION	TYPE	PWR	GND	LOCATION	TYPE	PWR	GND
1A	220/330 TERM	14	7	6C	LM339	3	12	4E	9602	16	8
2A	74S240	20	10	7C	74LS86	14	7	7E	LM319	—	3,6,8
1B,3B,1D,5D	74LS04	14	7	2D	74LS09	14	7	6E	74LS00	14	7
4B	MATBU2AMC	—	3	3D,6D,5E	74LS74	14	7	5F,7F	NE592A		2,5,6, 9,12
5Ba, 5Bb	75452B	8	4	4D	74LS02	14	7	2E	QT2905	—	—
				7D	7406	14	7	3A	220/330 TERM	16	8
3-4C	8048	40,26	20,7	2G	75451B	8	4				

REF DESIGNATORS

LAST USED	NOT USED
C52	
CR25	CR15, CR17
L10	
R98	R68
TP9	
41	
Q7	

DSC: R

D & D MGR		11-11-91
ME MGR		11-12-91
DOC MGR		11-12-91
UL/CSA		/ /

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		APPROVAL	DATE	DWN L. SCHOTT	9/6/91
TOLERANCES ARE DECIMALS .X± .XX± .XXX± ANGLES± DO NOT SCALE DRAWING	MECH		9/6/91	CHK	9/6/91
	ELEC		9/6/91	TITLE	SCHEM-MAIN PWB
	MFG		9/6/91		
	MATL		9/6/91		
	QA		9/6/91	CODE IDENT 32274	SIZE D
	MKT		9/6/91	DWG NO 207002-200	REV A
	ISSUED		9/6/91	SCALE NONE	MOD 500Z7-001 SH 1 OF 2

CIPHER SAN DIEGO CALIF.

READ 1
READ 2
J13
KEY
CR10
CR9
CR8
CR7
R37
R36
R38
C17
R23
C12
5F
TP1
TP2
C18
L4
L5
C20
C19
L3
L6
R22
C11
4V
C10
R24
C15
7F
TP5
TP3
TP4
R25
R31
R29
R39
R26
L2
L1
C13
C14
R30
R27
R28
R44
R42
R40
R41
L8
R52
7E
R51
+5V
R43
C16
R50
C23
L7
R48
+12V
C25
6E
WEN
R35
R53
TRØ
R34
R32
C8
R33
C9
WRITE 1
WRITE 2
J11
J12
ERASE
CR4
CR3
CR6
CR5
CR1
CR2
R6
C2
R21
C6
+24V
R13
C5
2E
R14
Q3
R5
R4
STPEN
SAFE
R18
R19
R16
R17
R15
R20
R10
R11
R12
C4
Q5
R9
C3
R8
Q4
R7
2D
R3
R1
Q2
Q1
R2
C1
C7
2G
CLK
J1-48
WEN-
J1-40
WDA-
J1-42
WDA+
J1-50
EEN-
SELD
4D
3A
7C
4E
5E
R49
R47
R45
C21
ONE A
ONE B
R46
C22
TP7
2A
RDL-
RDP-
SELD-
TACH-
TACH
SELD
J1-24
J1-26
J1-32
J1-38
SPARES

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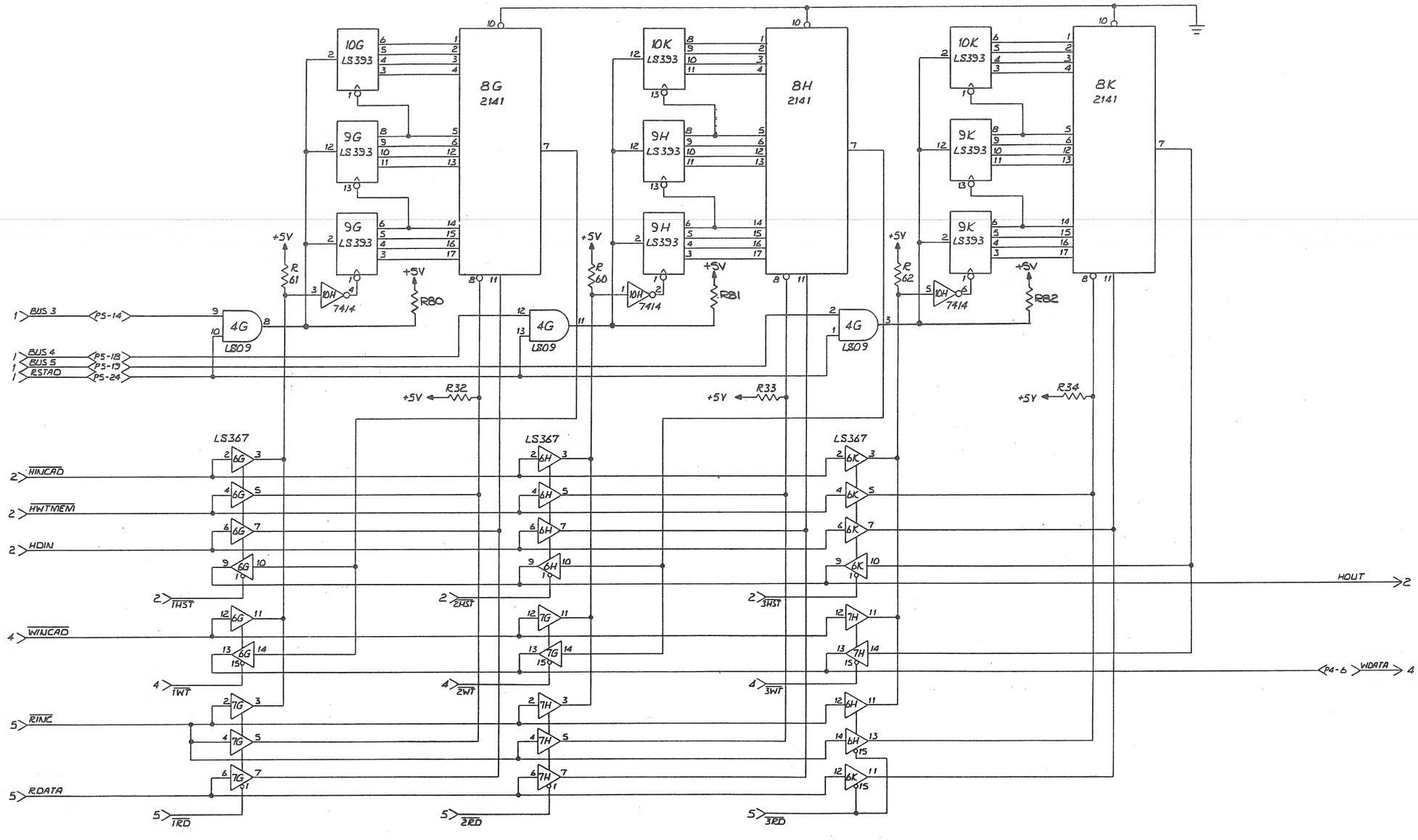
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS .X ± .XX ± .XXX ± ANGLES ± DO NOT SCALE DRAWING	APPROVAL	DATE	DWN L SCHOTT 9/2/81
	MECH		CHK [illegible]
	ELEC		TITLE: SCHEM-MAIN PWB
	MFG		
	MATL		
	QA		CODE IDENT 32274 · SIZE D · DWG NO 207002-200 · REV A
	MKT		
	ISSUED		SCALE NONE · MOD 50027-001 · SH 2 OF 6

cipher SAN DIEGO CALIF

FORM 540 (R. 3/77)

13b.

BUFFER MEMORIES



CODE IDENT	SIZE	DWG NO	REV
32274	D	207005-200	F
SCALE NONE	MOD	SH 3 OF 5	

1360601-300

WRITE LOGIC

WEN
WDATA
BUS (8)
LDBADR
VCB
DATAW
WADR
FMW
GAPW
SYNCW
CRCW
WST 1
WST 2
WST 3
WFM
WCLK
LOWRT
RST
WRCLK
WDA-
WDA+
PON
WRP-
DSRCP
WBCLK
HCLK
3WT
2WT
1WT
WCMP
4C LS166
5C LS08
11F LS32
10F LS11
11E 9401
13K LS164
13H 32×8 PROM S288
13F LS01
12E LS04
10E LS138
9E LS174
8F 4040
9F 256×4 PROM 8287
13E LS109
13G LS166
13D LS163
13E LS109
4B 7438
5F LS32
5K LS175
5G LS08
12F LS74
12G LS74
12H LS74
12K LS04
Y2 3.5795 MHz
R31
R41
R40
R39
R38
R37
R42
R36
R87
R28
R86
R47
CS1
CS2
CGO
+5V
P4-5
P4-24
P4-33
P4-34
P4-35
P4-37
P4-38
P4-39
P4-41
P4-42
P4-43
P4-44
P4-45
P5-5
P5-13
P5-14
P5-18
P5-19
P5-23
P5-41
BUS 2
BUS 3
BUS 4
BUS 5
S240
90 IPS
J3-40
J3-42
TP9

CODE IDENT	SIZE	DWG NO	REV
32274	D	207005-200	F

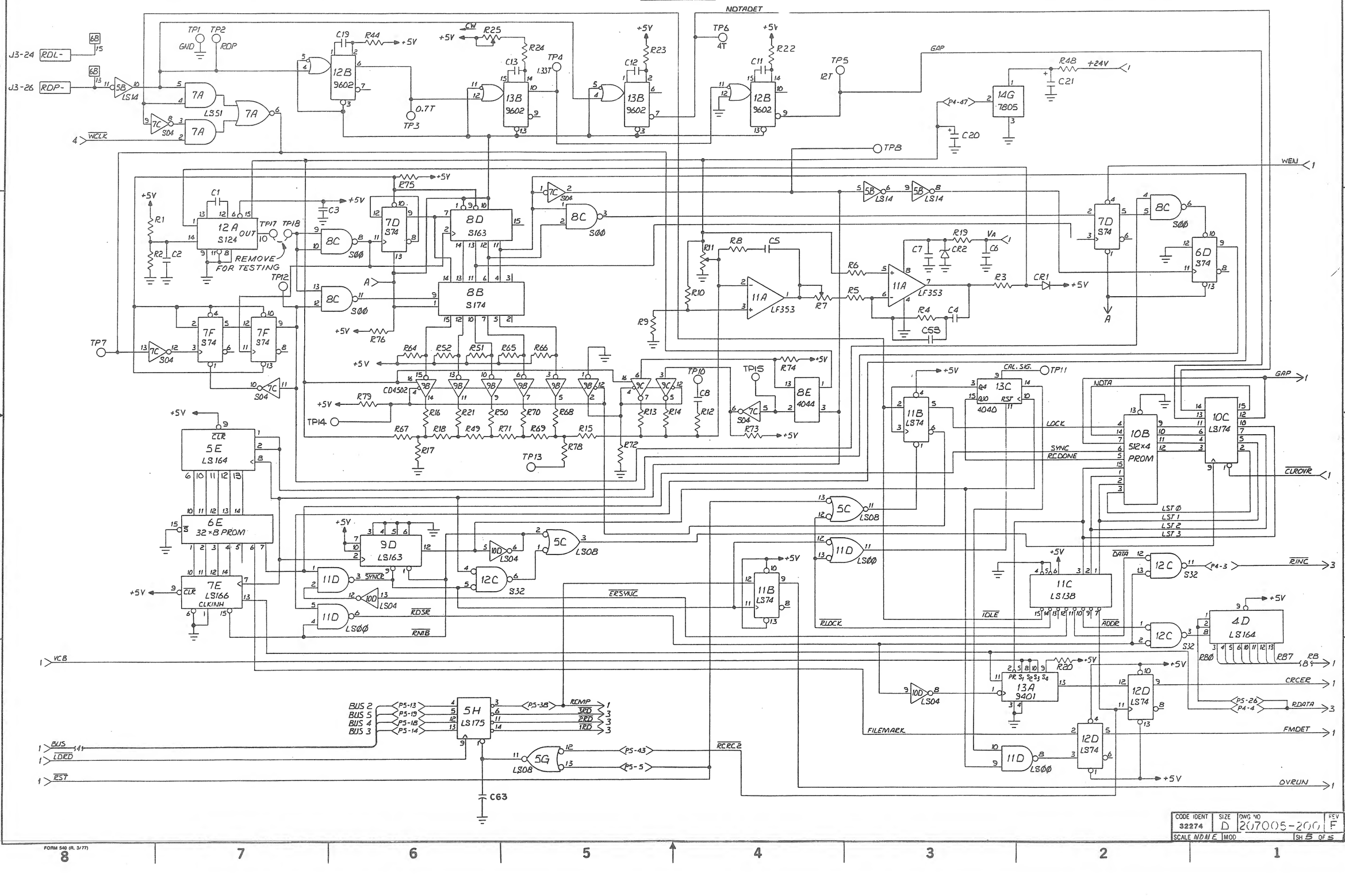
SCALE NONE UNCO SH 4 OF 5

FORM 548 (R. 3/77)

15b.

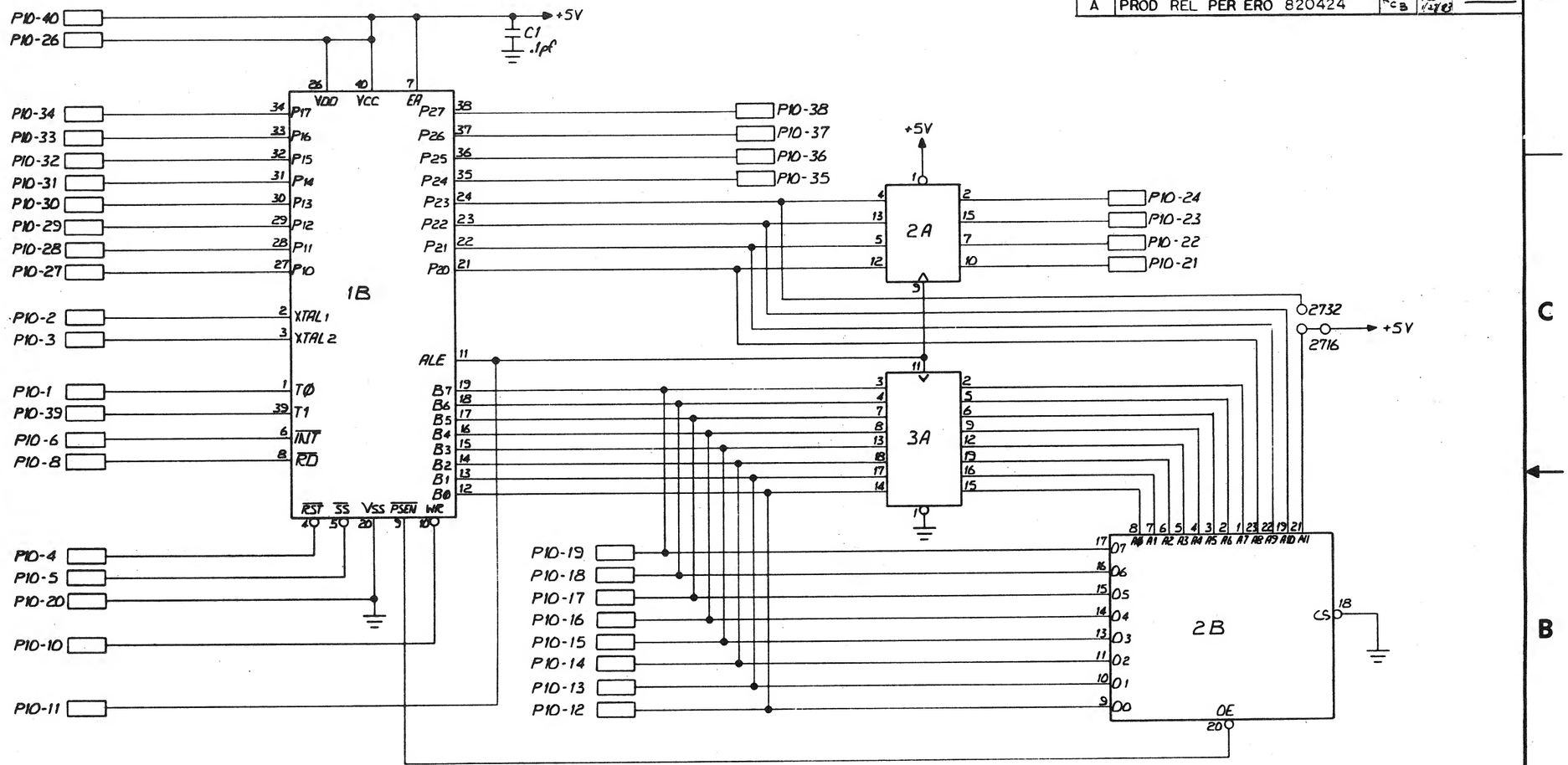
1360601-300

READ LOGIC



FORM 540 (R. 3/77)

REVISIONS				207011-200	1
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
A	ENG REL 8-30-81	JAL	9/1/81	CM 11/3/81	
01	PIL REL ERO 820809	KAM	3/5/82	—	
01₁	ECO 12442 KM	KAM	9/24/82	L Rankin	
01₂	ECO 12505	JAL	11/27/82	R Rankin	
A	PROD REL PER ERO 820424	RCB	1/27/83	—	



IC DESIGNATORS				REF DESIGNATORS	
LOCATION	TYPE	PWR	GND	LAST USED	NOT USED
1B	8035	7,26,40	20	C1	
2B	2716/2732	24	12,18		
2A	74LS175	1,16	8		
3A	74LS373	20	1,10		

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NOTES: UNLESS OTHERWISE SPECIFIED

D & D MGR	W. Morton 8-11-81
ME MGR	8-12-81
DOC MGR	11-12-81
UL/CSA	11/1/81

DSC: R

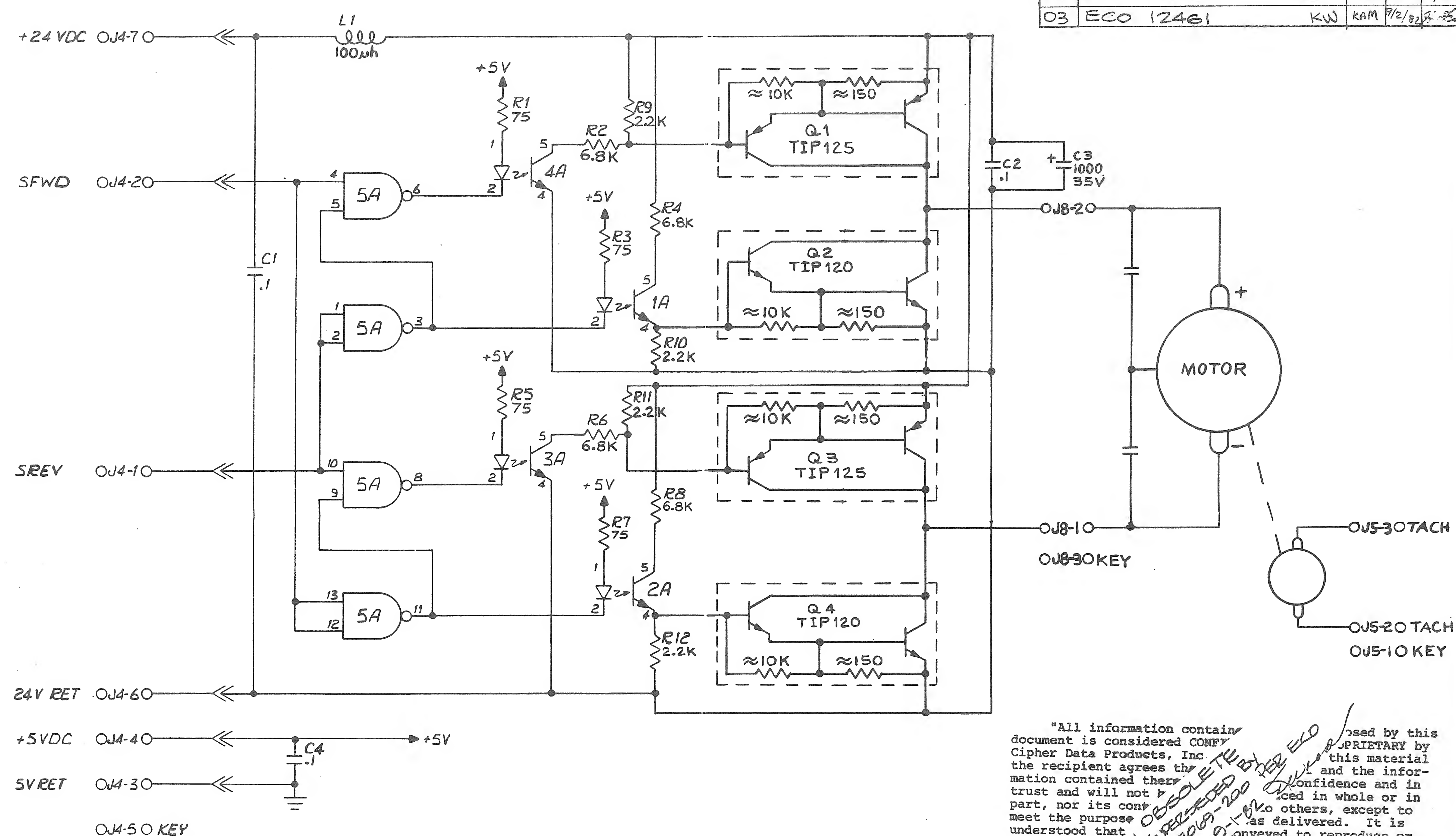
Q-108

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVAL	DATE	DWN L. SCHOTT	8/30/81	cipher SAN DIEGO CALIF
	MECH	9/8/81	CHK JAL	9/1/81	
TOLERANCES ARE DECIMALS .X± .XX± .XXX± ANGLES± DO NOT SCALE DRAWING	ELEC	10/28/81	TITLE SCHEM-MICROCOMPUTER EXPANDER, PWB (VERSION 2)		
	MFG	9/28/81			
	MATL	11/24/81			
	QA	11/11/81	CODE IDENT 32274	SIZE C	DWG NO 207011-200 REV A
	MKT	11/24/81			
	ISSUED	11/30/81	SCALE NONE	MOD 40041-001	SH 1 OF 1

FORM 383 (R. 10/77)

1360601-303

REVISIONS					207017-200 03
REV.	DESCRIPTION		CHK.	DATE	APPROVED
A	ENG REL	8-29-81			11/13/81
01	PIL REL ECO 820309		KAM	3/5/82	
02	ECO 12179	HS	KAM		
03	ECO 12461	KW	KAM	9/2/82	



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OBSOLETE SUPERSEDED BY 207069-200 PER ECO 12461 9-1-82

D & D MGR		11.11.81
ME MGR		11-12-81
DOC MGR		11-12-81
UL/CSA		11/11/81

HISTORICAL RECORD
DO NOT DESTROY

DSC: 7

Q-108

I C DESIGNATORS				REF DESIGNATORS	
LOCATION	TYPE	PWR	GND	LAST USED	NOT USED
1A,2A,3A,4A	4N28	–	–	C4	
5A	7438	14	7	L2	
				R12	
				Q4	

2. ALL CAPACITORS IN MICROFARADS.
1. ALL RESISTORS IN OHMS, 1/4W, 5%.
NOTES: UNLESS OTHERWISE SPECIFIED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE DECIMALS .X ± .XX ± .XXX ± ANGLES ±
DO NOT SCALE DRAWING

APPROVAL	DATE
MECH	11/6/81
ELEC	11/6/81
MFG	3/5/82
MATL	11/11/81
QA	11/11/81
MKT	
ISSUED	11/13/81

DWN L. SCHOTT 8/29/81
CHK 10/1/81
cipher data products, inc. SAN DIEGO CALIF.
TITLE SCHEM— MOTOR DRIVER, PWB
CODE IDENT 32274 | SIZE C | DWG NO 207017-200 | REV 03
SCALE NONE | MOD 40012-001 | SH 1 OF 1

1 360601-301

FORM 380 (R. 10/77)

REVISIONS				207066-200	D
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
01	PILOT RELEASE PER ERO 820385	KAM	10/4/82		
02	ECO 12436/A	KAM	10/31/82		
A	PROD. REL ERO 820421/A		1/4/83		
B	ECO 12631		2/4/83		
C	ECO 12642		3/8/83		
D	ECO 12728 JAK		4/4/83		

J1-16 SEL3-
J1-18 SEL2-
J1-20 SEL1-
J1-22 SELØ-
DC6
SHT 2
R81 4.7K
SELD
SHT 2
SHT 1
CR16 ACTIVITY LED (RED)
CLK
R56 470
Y1 3.5795 MHZ
C54 .0047 UF
R99 470
C50 4.7PF
R58 680
R61 680
2D
3-4C
R60 4.7K
R59 4.7K
CR18
C28 10V 2.2UF
CFØ CF1
RESET
EA
P23
P22
P13
P12
P11
P10
B2
B1
BØ
INT
ALE
P16
P15
P17
P26
P27
P21
P25
P24
P20
T1
XTAL1
XTAL2
PSEN
WR
PROG
VCC VDD VSS
Q7
Q6
R97 2.7K
R98 3.9K
R96 10K
CR25
CR23
CR22
CR24
CR21
RESET- J1-14
+24V
CR12
CR11
CR13
CR14
J3 P3
5Ba
5Bb
STPEN
SHT 2
+24V
30 KEY
5C
5D
WENSL
SHT 2
7C
ONE A
SHT 2
3D
ONE B
SHT 2
J4 P4
1 SREV
2 SFWD
3 SVRET
4 +5VDC
5 OL
6 24 VRET
7 +24 VDC
TO MOTOR DRIVER PWB
C42
C41
R57 4.7K
HSPD- J1-46
CF2
TP8
TP9
T2
T1
R54 220
R69 1.5K
C51 22UF 10%
C52 22UF 10%
SELD
UTH- J1-28
LTH- J1-30
CIN- J1-34
USF- J1-36
SPARE- J1-44
J1-6 TR3-
J1-8 TR2-
J1-10 TR1-
J1-12 TRØ-
J1-4 REV-
J1-2 GO-
1C
TRØ
SHT 2
R71 10K
R76 10K
R75 10K
C38 2.2UF 10V
C39
R73
R74
R72 100K
R67 10K
R65 10K
R66 100K
C37 .0047UF
6C
TACH
SHT 2
R87 1K
R86 10K
C43
R88 10K
.001UF
C45 .1UF
C44 .1UF 10%
R79 4.7K
R78 10K
R55 1K
C46 .001UF
R77 100K
C47 .001 UF
R91 47 K
R92 10K
R93 10K
R94 47K
R80 1.2K
C48 .001UF
R63 100K
R64 10K
C49 .001 UF
6D
4D
SAFE
SHT 2
P5
TACH - 3
GND 2
TACH + 1
J5
J6
J7
R90 10% 160
HOLE LED
UPPER HOLE
LOWER HOLE
CIN SWITCH
CIN-CLOSED
USF SWITCH
USF-CLOSED
P14 P15 P16 P6
KEY
J2-1 +24V
J2-2 24V RET
J2-3 5V RET
J2-4 +5V
C32 4.7UF 35V
TP6
CR15 IN4001
R70 62 ½W
+15V
C35 C24 C26 C27 C29 C30 C31 C36 C40
22UF
C33
C34 22UF 20V
CR19
CR20
6. ALL RESISTORS IN OHMS, 1/4 W ± 5%.
5. ALL CAPACITORS ARE .1, 50V.
4. ALL TRANSISTORS ARE 2N3904.
3. ALL DIODES ARE IN4150.
2 SEE M/L FOR VARIABLE COMPONENTS
1. USE PARTS LIST 207066-001, -002
NOTES: UNLESS OTHERWISE SPECIFIED
7 ACTUAL VALUE MAY VARY.

I.C. DESIGNATORS

LOCATION	TYPE	PWR	GND	LOCATION	TYPE	PWR	GND	LOCATION	TYPE	PWR	GND
1A	1801390 TERM	14	7	6C	LM339	3	12	4E	9602	16	8
2A	74S240	20	10	7C	74LS86	14	7	7E	LM319	-	3,6,8
1B,3B,1Q,5D	74LS04	14	7	2D	74LS09	14	7	6E	74LS00	14	7
4B	uA78L15MC	—	3	3D,6D,5E	74LS74	14	7	5F,7F	NE592A	—	—
5Ba,5Bb	75452B	8	4	4D	74LS02	14	7	2E	QT2905	—	—
3-4C	8048	40,26	20,7	7D	7406	14	7	3A	1801390 TERM	16	8
2G	75451B	8	4	—	—	—		—	—	—	—

REF DESIGNATORS

LAST USED	NOT USED
C54	C3, C4
CR25	CR17
R99	R22, R82, R83, R84, R85
TP9	—
Y1	—
Q9	—
VR1	—

NOTES UNLESS SPECIFIED
1. TOLERANCES .XX ± — ANGULAR ± —
2. BREAK ALL SHARP EDGES APPROX. .010
3. MACH. SURFACES
4. ALL DIMS IN INCHES.
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT

DSC: R

PART NUMBER

DRAWN	W. Reynolds	4-28-82
CHECK	Ken Markran	6/3/82
APPR.	R. Rivard	6/24/82
MATERIAL		
FINISH		
MODEL No.	0420-30/90	
NEXT ASSY		

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cipher data products, inc.

SCHEMATIC, MAIN PWB

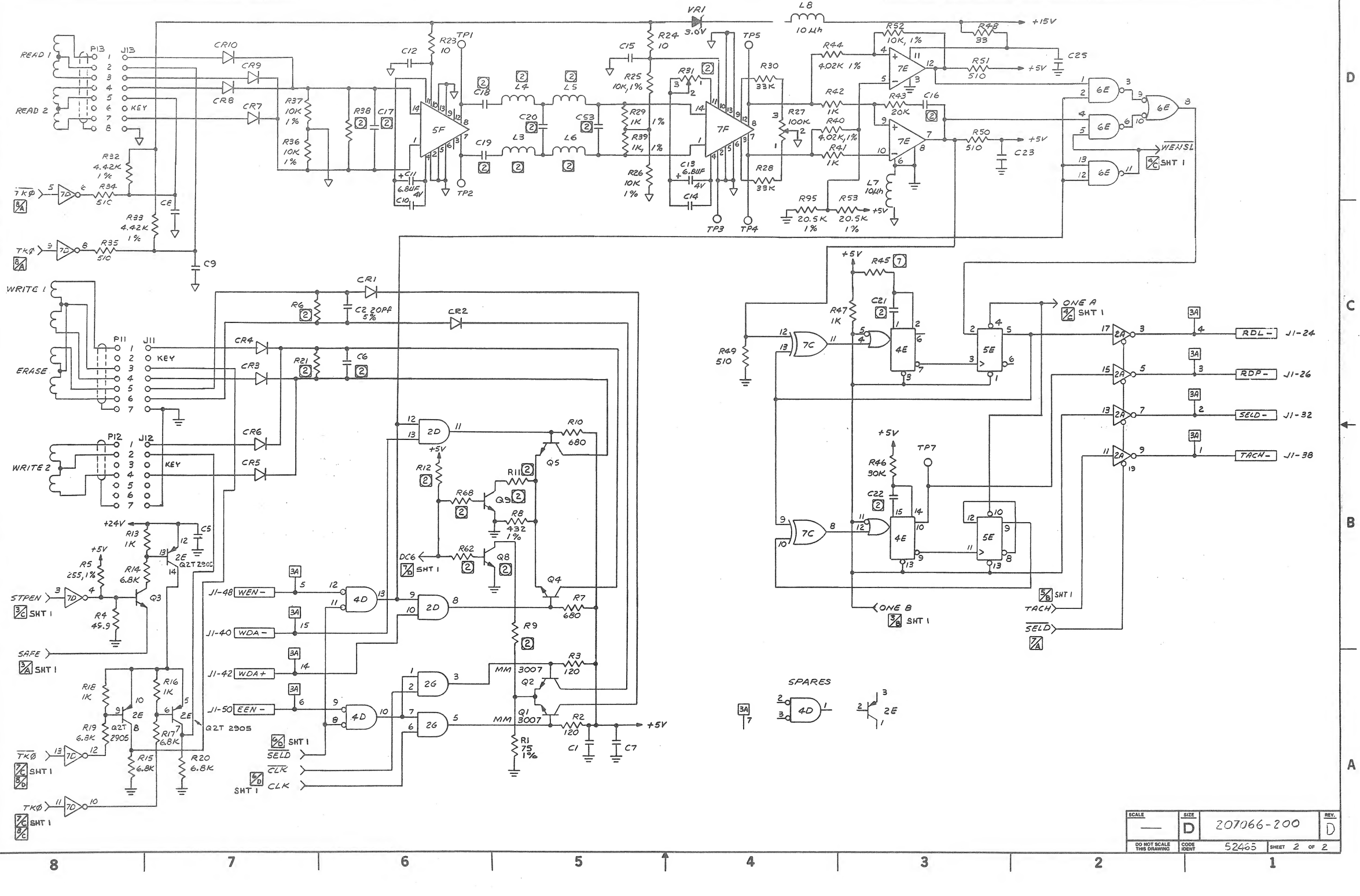
CODE ID 108 | QTY REQ'D. 1 | REV. D

SCALE — | SIZE D | 207066-200 | REV. D

DO NOT SCALE THIS DRAWING | CODE IDENT. 52465 | SHEET 1 OF 2

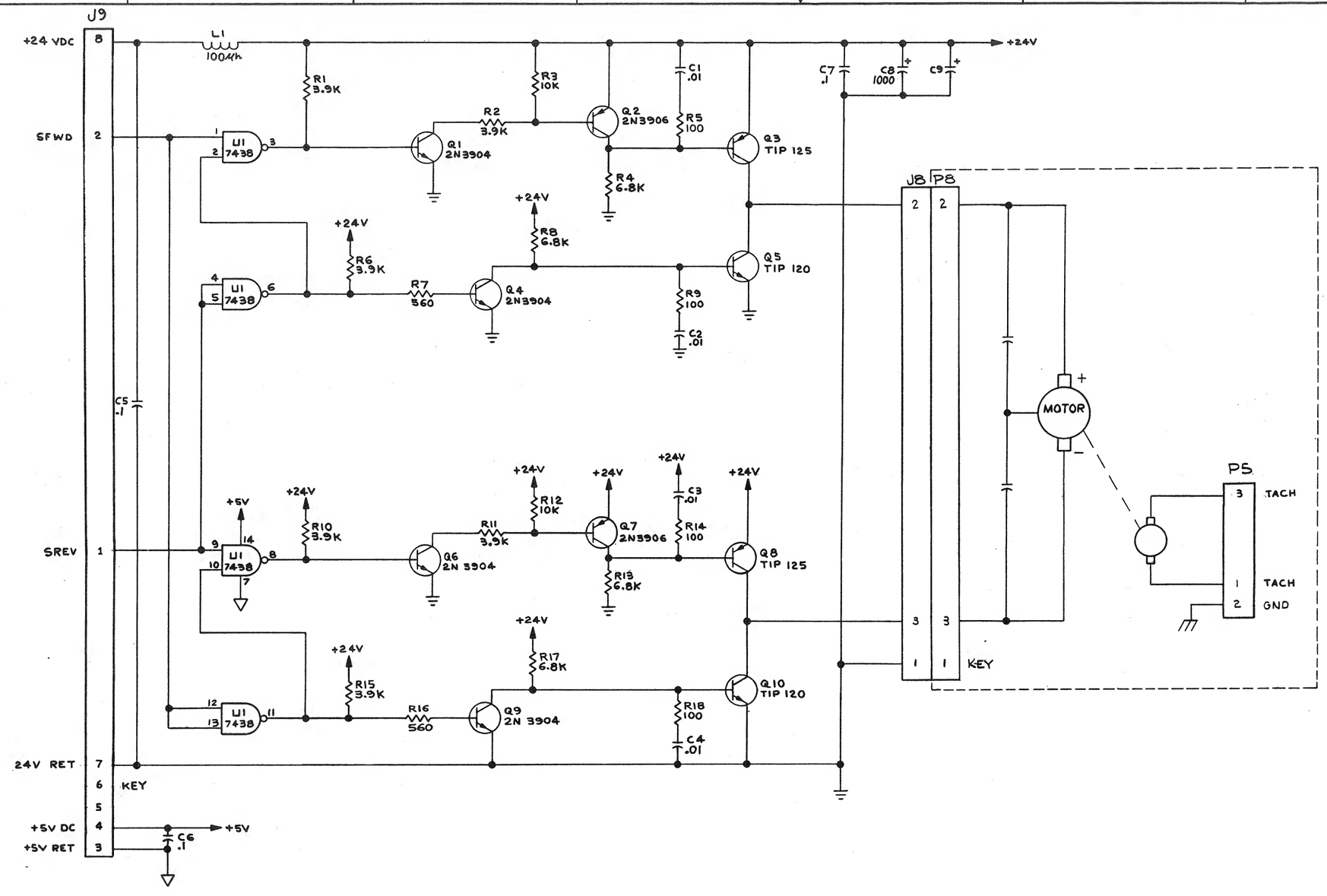
50027-0031 1

FORM 368 (R. 1-78) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-8829



SCALE	SIZE	207066-200	REV.
—	D		D
DO NOT SCALE THIS DRAWING	CODE IDENT 52465	SHEET 2 OF 2	

REVISIONS				207069-200 B
REV.	DESCRIPTION	CHK.	DATE	APPROVED
01	PILOT PEL PER ERO 820561	KW	5-17-82	
02	ECO 12382 JAX	KAM	8/23/82	
A	PROD. REL ERO 820421/A			
B	ECO 12592		2-1-83	



HISTORICAL RECORD
DO NOT DESTROY

OBSOLETE
REPLACED BY: 207207-200
CR/O #: 12592
DATE: 2-1-83

2. ALL CAPACITOR VALUES ARE IN MICROFARADS.

1. ALL RESISTOR VALUES ARE IN OHMS ±5%, 1/4W

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER 207069-200

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± — ANGULAR .XXX± —	DRAWN	Howard Stern	4/5/82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Ken Wahlrab	4/6/82
3. MACH. SURFACES √	APPR.	W.L. Stidd	5/3/82
4. ALL DIMS IN INCHES.	MATERIAL	—	
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH	—	
DSC:R	MODEL No.	QUARTERBACK	
	NEXT ASSY	207358 & 207359	

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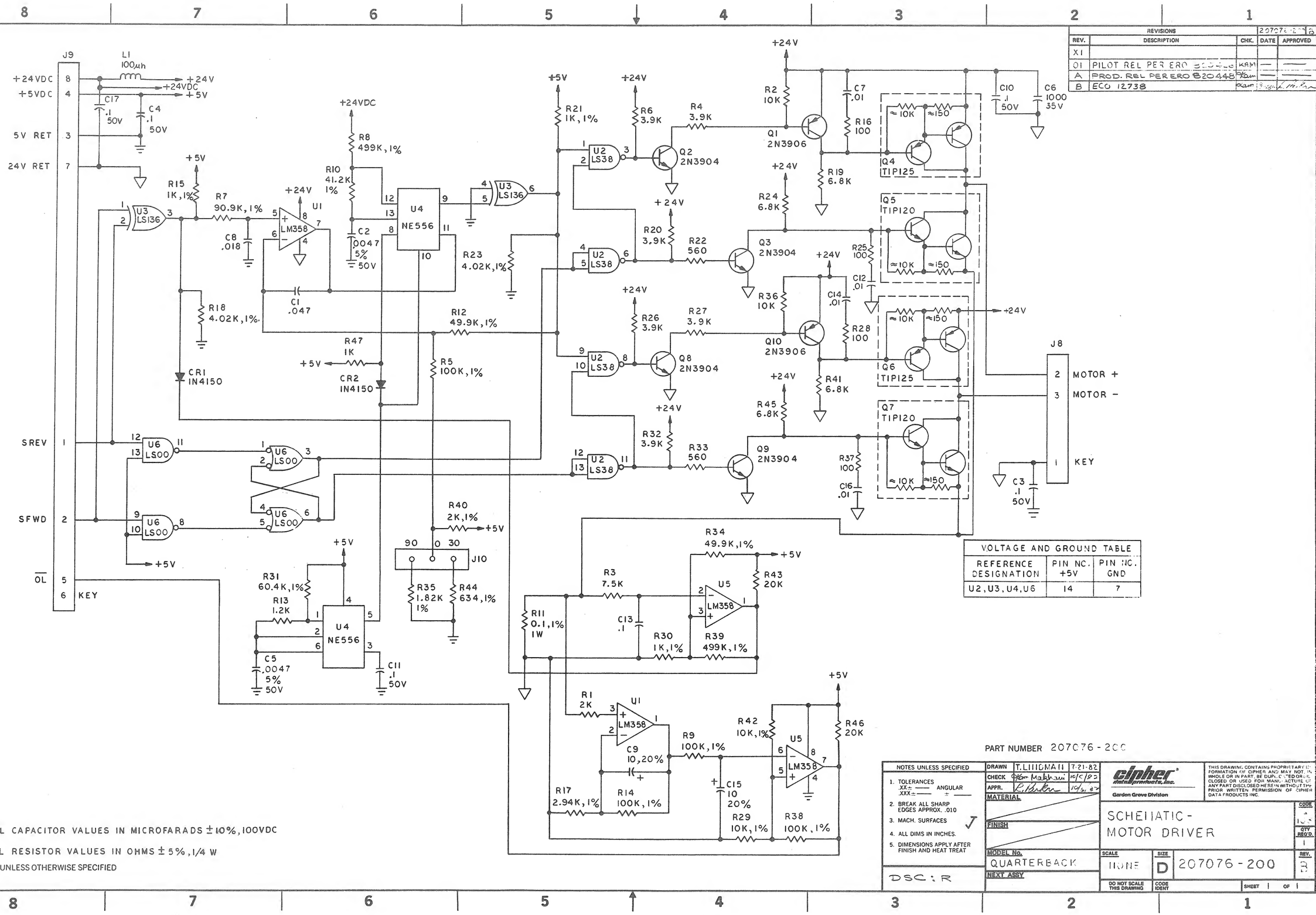
cipher data products, inc.

SCHEMATIC
PWB, MOTOR DRIVER

CODE	CITY REQ'D.
Q 108	—

SCALE	SIZE		REV.
NONE	D	207069-200	B

DO NOT SCALE THIS DRAWING	CODE IDENT	SHEET
	52465	1 OF 1



REVISIONS				
REV.	DESCRIPTION	CHK.	DATE	APPROVED
X1				
01	PILOT REL PER ERO [illegible]	KAM	—	—
A	PROD. REL PER ERO B20448	Kam	—	—
B	ECO 12738	Kam	[illegible]	[illegible]

VOLTAGE AND GROUND TABLE		
REFERENCE DESIGNATION	PIN NO. +5V	PIN NO. GND
U2, U3, U4, U6	14	7

2. ALL CAPACITOR VALUES IN MICROFARADS ±10%, 100VDC

1. ALL RESISTOR VALUES IN OHMS ±5%, 1/4 W

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER 207076-200

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± —— ANGULAR .XXX± ——	DRAWN	T. LIIIGMAN	7-21-82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	[illegible] Makowski	10/5/82
3. MACH. SURFACES √	APPR.	R. Baker	10/6/82
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC: R	MODEL No.	QUARTERBACK	
	NEXT ASSY		

cipher data products, inc. — Garden Grove Division

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SCHEMATIC - MOTOR DRIVER

CODE IDENT	SIZE	DRAWING NO.	REV.
DO NOT SCALE THIS DRAWING	D	207076-200	B

SCALE NONE — SHEET 1 OF 1 — QTY REQ'D 1

SECTION 2

ASSEMBLY DRAWINGS

2.1 INTRODUCTION

This section contains the assembly drawings and material lists for all the assemblies in the Quarterback Tape Drive. These documents are listed in paragraph 2.2. Logic schematics are provided in Section I of this Engineering Drawing Package.

The assembly drawings identify every part on any given assembly. Parts are identified either by item number; (e.g., 1, 2, 3, etc.) or by circuit reference number (e.g., R1, C1, U1, etc.). The associated material lists incorporate these identification numbers, together with part description, Cipher part number, and part quantity, i.e., the quantity of a particular part required for a given assembly.

2.2 ASSEMBLY DRAWINGS

The following assembly drawings are provided in numerical sequence, as listed. Included are related material lists.

	Dwg. No.
Assembly, Main PWB	207002-100
Assembly, Controller	207005-100
Assembly, Microcomputer Expander PWB	207011-100
Assembly, Motor Driver PWB	207017-100
Assembly, Main PWB	207066-100
Assembly, Motor Driver PWB	207069-100
Assembly, Diode/Slow Speed Motor Kit 30 Ips	207072-100
Assembly, Cable-Motor Driver PWB	207073-100
Assembly, Motor Driver PWB	207076-100
Outline Drawing, Basic Cartridge Tape Drive	207302-001
Outline Drawing, Intelligent Cartridge Tape Drive	207303-001
Assembly, Main Frame	207304-100
Assembly, Drive Motor	207314-100
Assembly, Sensor	207324-100
Assembly, Sensor Harness	207326-100
Assembly, Carriage	207329-100
Pictorial, MTT F420	207350-100
Pictorial, MTT 0420	207358-100
Assembly, Main Frame	207393-100
Assembly, Ground Strap Cable	207394-100

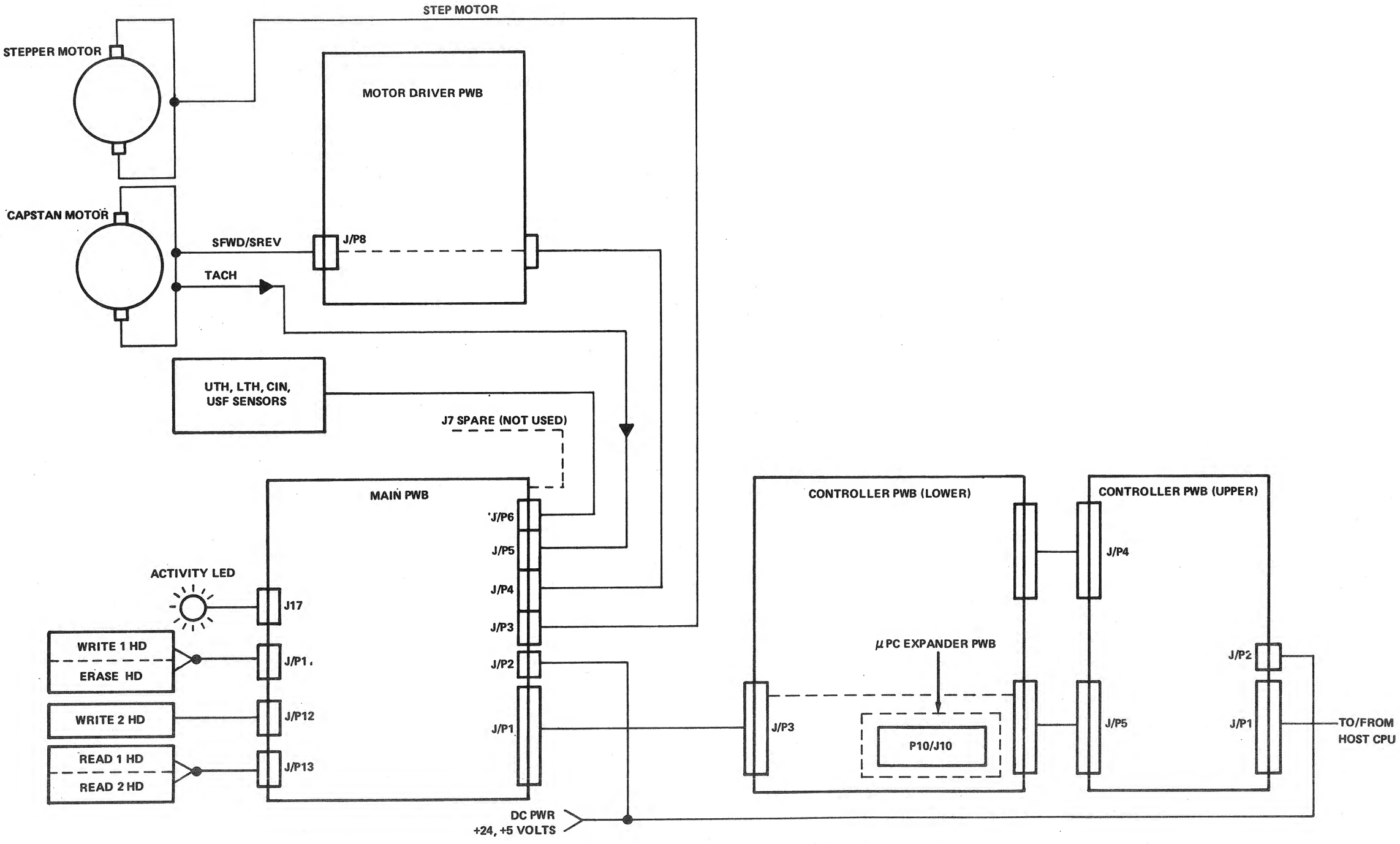
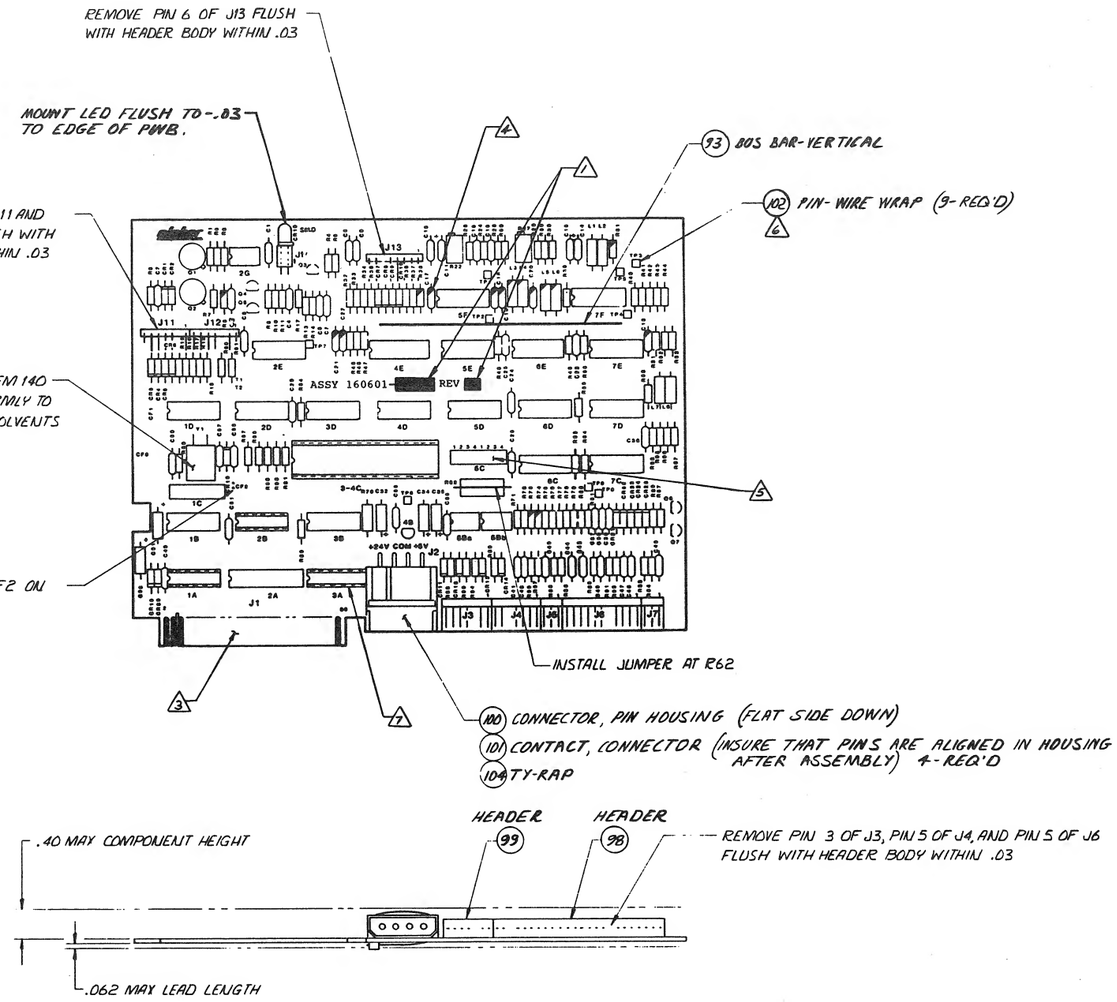


FIGURE 2–1. QUARTERBACK INTELLIGENT TAPE DRIVE, INTERCONNECT DIAGRAM

REVISIONS				207002-100 A
REV.	DESCRIPTION	CHK	DATE	APPROVED
A	ENG REL	LVS	8/5/81	CLH 9/4/81
01	PIL REL ERO 820809	KAM	11/5/82	
02	ECO 12315	KAM		
A	PROD. REL ERO 820421/A	KAM	12/15/84	



7. INSTALL COMPONENTS 1A, 3A, 2B, AND 3-4C IN SOCKETS AFTER FLOW SOLDERING AND CLEANING
6. PRESS TEST POINT PINS INTO PWB PRIOR TO FLOW SOLDERING
5. INSTALL ITEM 103 JUMPER CLIPS ON PIN SETS 1 OF HEADER 5C
4. COMPONENTS MARKED WITH TRIANGLE IN CORNER HAVE UNIQUE VALUES FOR EACH ASSY VERSION
3. MASK CONNECTOR FINGERS PRIOR TO FLOW SOLDERING
2. FOR SCHEMATIC REFER TO DWG 207002-200
1. MARK APPROPRIATE DASH NO. AND REVISION LETTER WHERE SHOWN USING .12 IN. HIGH WHITE CHARACTERS PER CDP SPEC 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NO. SEE SEPARATE M/L

D & D MGR		11-11-84
ME MGR		
DOC MGR		11-12-84
UL/CSA		

DSC: R

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS .X ± .XX ± .XXX ± ANGLES ± DO NOT SCALE DRAWING	APPROVAL	DATE	DWN L. SCHOTT	9/2/81	cipher SAN DIEGO CALIF
	MECH	11/2/81	CHK	9/3/81	
	ELEC	9/11/81	TITLE		
	MFG	9/11/81	ASSY, PWB-MAIN		
	MAT	9/11/81			
	QA	9/11/81	CODE IDENT 32274	SIZE D	DWG NO 207002-100 REV A
	MKTG	9/11/81			
	ISSUED	9/11/81	SCALE 1:1	MOD 50030-001	SH 1 OF 1

NEXT ASSY 207068-301 -501

21.

ASSEMBLY PARTS LIST

S 7 0 1 1 | 207002 — 001 | REV B
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - MAIN - 30 IPS | DSC: R | DOC CODE Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
207002 — 200	1	SCHEMATIC		0		
207001 — 001	2	PROCESS BOARD		1		
123234 — 001	3	I.C. 74S240	2A	1		
123031 — 001	4	I.C. 74LS04	1B, 3B, 1D, 5D	4		
125017 — 012	5	I.C. MA78L12	4B	1		
101031 — 001	6	I.C. 75452	5Ba, 5Bb	2		
125011 — 001	7	I.C. LM339	6C	1		
123038 — 001	8	I.C. 74LS86	7C	1		
123123 — 001	9	I.C. 74LS09	2D	1		
123030 — 001	10	I.C. 74LS02	4D	1		
123036 — 001	11	I.C. 74LS74	3D, 6D, 5E	3		
100331 — 001	12	I.C. 7406	7D	1		
101139 — 001	13	I.C. 75451	2G	1		
100234 — 001	14	I.C. 9602	4E	1		

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	1-14-82	04	12494	[signature]			
CHECKED BY	[signature]	1-26-82	03	12435	[signature] 9/2/82			
DESIGN ENGINEER	[signature]	1-29-82	02,	12315	[signature]	B	12636	[signature]
			02	12185	[signature]	A	ERO 82043	[signature]
			01	PIL REL			PROD REL	

DWG REL NO. 820287 | DATE 2 1 82 (MM DD YY)
NEXT ASSEMBLY 207359
MODEL NO. 0420-30

FORM 786 (R 08/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207002 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
123239 — 001	15	I.C. LM319	7E	1		
101032 — 001	16	I.C. NE592	5F, 7F	2		
207030 — 001	17	ASSY, PROM 8 BIT MICROCOMPUTER	3-4C	1		
123029 — 001	18	I.C. 74LS00PCQR	6E	1		
146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B, 1A	2		
146014 — 040	20	SOCKET, DIP - 40 CONTACTS	3-4C	1		
146014 — 016	21	SOCKET, DIP - 16 CONTACTS	3A	1		
120909 — 003	22	HEADER, PROGRAM-DIP	2B	1		
151032 — 001	23	TRANSISTOR PNP Q2T2905	2E	1		
151030 — 001	24	TRANSISTOR NPN 2N3904	Q3-7	5		
151033 — 001	25	TRANSISTOR NPN MM3007	Q1,2	2		
107201 — 001	26	DIODE 1N4150	CR1-14, CR18-25	22		
107005 — 001	27	LED, INDICATOR MV5054-2	CR16	1		
106500 — 014	28	CRYSTAL - 3.579545 MHz	Y1	1		
100064 — 121	29	RESISTOR, ¼w ±5% 120	R70	1		
101156 — 472	30	RESISTOR, ¼w ±5% 4.7K	57,59,60,79,81	5		
101156 — 471	31	RESISTOR, ¼w ±5% 470	56	1		
101156 — 681	32	RESISTOR, ¼w ±5% 680	R7,10, 58,61	4		
101156 — 103	33	RESISTOR, ¼w ±5% 10K	64,65,67,71,75,76,78, 86,88,92,93,96	12		
101156 — 333	34	RESISTOR, ¼w ±5% 33K	28,30	2		
101156 — 104	35	RESISTOR, ¼w ±5% 100K	R63,66,72,77	4		

FORM 786B (R 08/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207002 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
101156 — 161	36	RESISTOR, ¼w ±5% 160	R90	1		
101156 — 473	37	RESISTOR, ¼w ±5% 47K	R91,94	2		
101156 — 122	38	RESISTOR, ¼w ±5% 1.2K	R80	1		
101156 — 101	39	RESISTOR, ¼w ±5% 100	R82-85	4		
101156 — 470	40	RESISTOR, ¼w ±5% 47	R4	1		
101156 — 682	41	RESISTOR, ¼w ±5% 6.8K	R14,15,17,19,20	5		
101156 — 121	42	RESISTOR, ¼w ±5% 120	R2,3	2		
101156 — 511	43	RESISTOR, ¼w ±5% 510	34,35,49,50,51	5		
101156 — 303	44	RESISTOR, ¼w ±5% 30K	R45,46	2		
101156 — 100	45	RESISTOR, ¼w ±5% 10	R23	1		
101156 — 221	46	RESISTOR, ¼w ±5% 220	R54	1		
101156 — 330	47	RESISTOR, ¼w ±5% 33	R48	1		
101156 — 102	48	RESISTOR, ¼w ±5% 1K	R13,16,18,38,41,42, 47,55,87,89	10		
101156 — 332	49	RESISTOR, ¼w ±5% 3.3K	R73,74	2		
101156 — 203	50	RESISTOR, ¼w ±5% 20K	R43	1		
101156 — 152	51	RESISTOR, ¼w ±5% 1.5K	R69	1		
101156 — 272	52	RESISTOR, ¼w ±5% 2.7K	R97	1		
101156 — 392	53	RESISTOR, ¼w ±5% 3.9K	R98	1		
100155 — 232	54	RESISTOR, ¼w ±1% 255	R5	1		
100155 — 181	55	RESISTOR, 1/4w ±1% 75	R1	1		
100155 — 351	56	RESISTOR, ¼w ±1% 4.42K	R32,33	2		

FORM 786B (R 08/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207002 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
100155 — 385	57	RESISTOR, 1/4w ±1% 10K	R25,26,36,37,52	5		
100155 — 289	58	RESISTOR, 1/4w ±1% 1K	R29,39	2		
100155 — 254	59	RESISTOR, ¼w ±1% 432	R8,31	2		
—	60					
100155 — 347	61	RESISTOR, ¼w ±1% 4.02K	R40,44	2		
100155 — 415	62	RESISTOR, ¼w ±1% 20.5K	R53,95	2		
142027 — 003	63	TERMINATOR - 14 PIN 220/330 OHM	1A	1		
142032 — 001	64	TERMINATOR - 16 PIN 220/330 OHM	3A	1		
138002 — 104	65	POTENTIOMETER ¼w, 100K	R27	1		
102769 — 475	66	CAP., TANT. 35v ±20% 4.7uf	C32	1		
102768 — 226	67	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
102768 — 225	68	CAP., TANT. 10v ±20% 2.2uf	C28,38	2		
102871 — 225	69	CAP., TANT. 20v ±20% 2.2uf	C34	1		
102870 — 685	70	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
102665 — 104	71	CAP., CER. 50v -20+80% .1 uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36, C39-42	23		
—						
102667 — 104	72	CAP., CER. 50v ±10% .1 uf	C44,45	2		
102667 — 102	73	CAP., CER. 50v ±10% .001 uf	C43,46-49	5		
102667 — 472	74	CAP., CER. 50v ±10% .0047uf	C37	1		
102666 — 479	75	CAP., CER. 50v ±5% 4.7pf	C50	1		
—	76					

FORM 786B (R 08/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207002 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
—	77					
—	78					
—	79					
102669 — 330	80	CAP., CER. 50v ±5% 33pf	C16	1		
102669 — 302	81	CAP., CER. 50v ±5% 3000pf	C17	1		
102669 — 911	82	CAP., CER. 50v ±5% 910pf	C18,19	2		
102669 — 221	83	CAP., CER. 50v ±5% 220pf	C20	1		
102669 — 101	84	CAP., CER. 50v ±5% 100pf	C22	1		
102669 — 131	85	CAP., CER. 50v ±5% 130pf	C21	1		
102669 — 200	86	CAP., CER. 50v ±5% 20pf	C2	1		
—	87					
122502 — 001	88	INDUCTOR, 10uh ±5%, 290ma	L7,8	2		
—	89					
122502 — 004	90	INDUCTOR, 120uh ±5%, 124ma	L1,2	2		
122502 — 007	91	INDUCTOR, 750uh ±5%, 79ma	L3,4	2		
122502 — 005	92	INDUCTOR, 160uh ±5%, 111ma	L5,6	2		
102002 — 001	93	BUS BAR - VERTICAL		1		
100143 — 002	94	PAD, TRANSISTOR, TO-5	XQ1,2	2		
120905 — 011	95	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
120916 — 001	96	HEADER, RIGHT ANGLE	J13	1		
120916 — 002	97	HEADER, RIGHT ANGLE	J11,12	1		

FORM 786B (R 08/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207002 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	DECIMAL	U.M. CODE
120915 — 024	98	HEADER, RT. ANGLE	J4-7	1		
120915 — 007	99	HEADER, RT. ANGLE	J3	1		
105084 — 001	100	CONNECTOR-HOUSING, 4 POS.	J2	1		
106019 — 001	101	CONTACT-PIN	J2	4		
100360 — 001	102	PIN, WIRE WRAP .025 SQ.	TP1-9	9		
104903 — 001	103	CLIP, JUMPER .025 SQ. POST	5C	2		
100171 — 002	104	TY-RAP 1/16-1¼	J2	1		
150107 — 001	105	TAPE, DOUBLE COATED POLYURETHANE FOAM	Y1		1	
164021 — 926	106	WIRE, HOOKUP 26 AWG	CF2, R22, R62		2	
—						
100121 — 001	108	DIODE, ZENER (1N5221)2.4V±10%	VR1	1		
—						
207002 — 100	110	ASSY DWG		0		
207000 — 001	111	PRINTED MASTER		0		
100155 — 437	113	RESISTOR, 1/4W ±1% 34.8K	R45	1		
—						
—						
—						
—						
—						

FORM 786B (R 08/80)

21b.

ASSEMBLY PARTS LIST

S7011 — 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - MAIN - 90 IPS — DSC: R — DOC CODE: Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207002 — 200	1	SCHEMATIC		0		
207001 — 001	2	PROCESS BOARD		1		
123234 — 001	3	I.C. 74S240	2A	1		
123031 — 001	4	I.C. 74LS04	1B, 3B, 1D, 5D	4		
125017 — 012	5	I.C. MA78L12	4B	1		
101031 — 001	6	I.C. 75452	5Ba, 5Bb	2		
125011 — 001	7	I.C. LM339	6C	1		
123038 — 001	8	I.C. 74LS86	7C	1		
123123 — 001	9	I.C. 74LS09	2D	1		
123030 — 001	10	I.C. 74LS02	4D	1		
123036 — 001	11	I.C. 74LS74	3D, 6D, 5E	3		
100331 — 001	12	I.C. 7406	7D	1		
101139 — 001	13	I.C. 75451	2G	1		
100234 — 001	14	I.C. 9602	4E	1		

		DATE						DWG REL NO.	DATE
PREPARED BY	Sue Redmond	1-14-82	04	12494				820287	2 1 82
CHECKED BY		1-26-82	03	12435					M M D D Y Y
DESIGN ENGINEER		1-29-82	02	12315	B	12636		NEXT ASSEMBLY	207358
			02	12185	A	ERO 82421		MODEL NO.	0420-90
			01	PIL REL		PROD. REL			
			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE	

FORM 795 (R 09/80) — PAGE 1 OF 7

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 123239 — 001	15	I.C. LM319	7E	1		
MP 101032 — 001	16	I.C. NE592	5F,7F	2		
MP 207030 — 001	17	ASSY, PROM - 8 BIT MICROCOMPUTER	3-4C	1		
MP 123029 — 001	18	I.C. 74LS00	6E	1		
MP 146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B, 1A	2		
MP 146014 — 040	20	SOCKET, DIP - 40 CONTACTS	3-4C	1		
MP 146014 — 016	21	SOCKET, DIP - 16 CONTACTS	3A	1		
MP 120909 — 003	22	HEADER, PROGRAM-DIP	2B	1		
MP 151032 — 001	23	TRANSISTOR, PNP Q2T2905	2E	1		
MP 151030 — 001	24	TRANSISTOR, NPN 2N3904	Q3-7	5		
MP 151033 — 001	25	TRANSISTOR, NPN MM3007	Q1,2	2		
MP 107201 — 001	26	DIODE 1N4150	CR1-14,CR18-25	22		
MP 107005 — 001	27	LED, INDICATOR MV5054-2	CR16	1		
MP 106500 — 014	28	CRYSTAL - 3.579545 MHz	Y1	1		
MP 100064 — 121	29	RESISTOR, ¼w ±5% 120	R70	1		
MP 101156 — 472	30	RESISTOR, ¼w ±5% 4.7K	57,59,60,79,81	5		
MP 101156 — 471	31	RESISTOR, ¼w ±5% 470	56	1		
MP 101156 — 681	32	RESISTOR, ¼w ±5% 680	R7,10,58,61	4		
MP 101156 — 103	33	RESISTOR, ¼w ±5% 10K	64,65,67,71,75,76,78, 86,88,92,93,96	12		
MP 101156 — 333	34	RESISTOR, ¼w ±5% 33K	28,30	2		
MP 101156 — 104	35	RESISTOR, ¼w ±5% 100K	R63,66,72,77	4		

FORM 795B (R 09/80) — PAGE 2 OF 7

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 101156 — 161	36	RESISTOR, ¼w ±5% 160	R90	1		
MP 101156 — 473	37	RESISTOR, ¼w ±5% 47K	R91,94	2		
MP 101156 — 122	38	RESISTOR, ¼w ±5% 1.2K	R80	1		
MP 101156 — 101	39	RESISTOR, ¼w ±5% 100	R82-85	4		
MP 101156 — 470	40	RESISTOR, ¼w ±5% 47	R4	1		
MP 101156 — 682	41	RESISTOR, ¼w ±5% 6.8K	R14,15,17,19,20	5		
MP 101156 — 121	42	RESISTOR, ¼w ±5% 120	R2,3			
MP 101156 — 511	43	RESISTOR, ¼w ±5% 510	34,35,49,50,51	5		
MP 101156 — 303	44	RESISTOR, ¼w ±5% 30K	R45,46	2		
MP 101156 — 100	45	RESISTOR, ¼w ±5% 10	R23	1		
MP 101156 — 221	46	RESISTOR, ¼w ±5% 220	R54	1		
MP 101156 — 330	47	RESISTOR, ¼w ±5% 33	R48	1		
MP 101156 — 102	48	RESISTOR, ¼w ±5% 1K	R13,16,18,41,42,47, 55,73,74,87,89	11		
MP 101156 — 302	49	RESISTOR, ¼w ±5% 3K	R38	1		
MP 101156 — 203	50	RESISTOR, ¼w ±5% 20K	R43	1		
MP 101156 — 152	51	RESISTOR, ¼w ±5% 1.5K	R69	1		
MP 101156 — 272	52	RESISTOR, ¼w ±5% 2.7K	R97	1		
MP 101156 — 392	53	RESISTOR, ¼w ±5% 3.9K	R98	1		
MP 100155 — 232	54	RESISTOR, ¼w ±1% 255	R5	1		
MP 100155 — 181	55	RESISTOR, ¼w ±1% 75	R1	1		
MP 100155 — 351	56	RESISTOR, ¼w ±1% 4.42K	R32,33	2		

FORM 795B (R 09/80) — PAGE 3 OF 7

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 100155 — 385	57	RESISTOR, ¼w ±1% 10K	R25,26,36,37,52	5		
MP 100155 — 289	58	RESISTOR, ¼w ±1% 1K	R29,39	2		
MP 100155 — 254	59	RESISTOR, ¼w ±1% 432	R8	1		
MP 100155 — 302	60	RESISTOR, ¼w ±1% 1.37K	R31	1		
MP 100155 — 347	61	RESISTOR, ¼w ±1% 4.02K	R40,44	2		
MP 100155 — 415	62	RESISTOR, ¼w ±1% 20.5K	R53,95	2		
MP 142027 — 003	63	TERMINATOR - 14 PIN 220/330 OHM	1A	1		
MP 142032 — 001	64	TERMINATOR - 16 PIN 220/330 OHM	3A	1		
MP 138002 — 104	65	POTENTIOMETER ½w, 100K	R27	1		
MP 102769 — 475	66	CAP., TANT. 35v ±20% 4.7uf	C32	1		
MP 102768 — 226	67	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
MP 102768 — 225	68	CAP., TANT. 10v ±20% 2.2uf	C28,38	2		
MP 102871 — 225	69	CAP., TANT. 20v ±20% 2.2uf	C34	1		
MP 102870 — 685	70	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
MP 102665 — 104	71	CAP., CER. 50v -20+80% .1 uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36, C39-42	23		
MP —						
MP 102667 — 104	72	CAP., CER. 50v ±10% .1 uf	C44,45	2		
MP 102667 — 102	73	CAP., CER. 50v ±10% .001 uf	C43,46-49	5		
MP 102667 — 472	74	CAP., CER. 50v ±10% .0047uf	C37	1		
MP 102666 — 479	75	CAP., CER. 50v ±5% 4.7pf	C50	1		
MP 102669 — 331	76	CAP., CER. 50v ±5% 330pf	C17	1		

FORM 795B (R 09/80) — PAGE 4 OF 7

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 102669 — 301	77	CAP., CER. 50v ±5% 300pf	C18,19	2		
MP 102669 — 750	78	CAP., CER. 50v ±5% 75pf	C20	1		
MP 102669 — 330	79	CAP., CER. 50v ±5% 33pf	C16,21,22	3		
MP —	80					
MP —	81					
MP —	82					
MP —	83					
MP —	84					
MP —	85					
MP 102669 — 200	86	CAP., CER. 50v ±5% 20pf	C2	1		
MP 122502 — 003	87	INDUCTOR 56uh ±5%, 164ma	L5,6	2		
MP 122502 — 001	88	INDUCTOR 10uh ±5%, 290ma	L7,8	2		
MP 122502 — 006	89	INDUCTOR 240uh ±5%, 101ma	L3,4	2		
MP 122502 — 004	90	INDUCTOR 120uh ±5%, 124ma	L1,2	2		
MP —	91					
MP —	92					
MP 102002 — 001	93	BUS BAR - VERTICAL		1		
MP 100143 — 002	94	PAD, TRANSISTOR, TO-5	Q1,2	2		
MP 120905 — 011	95	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
MP 120916 — 001	96	HEADER, RIGHT ANGLE	J13	1		
MP 120916 — 002	97	HEADER, RIGHT ANGLE	J11,12	1		

FORM 795B (R 09/80) — PAGE 5 OF 7

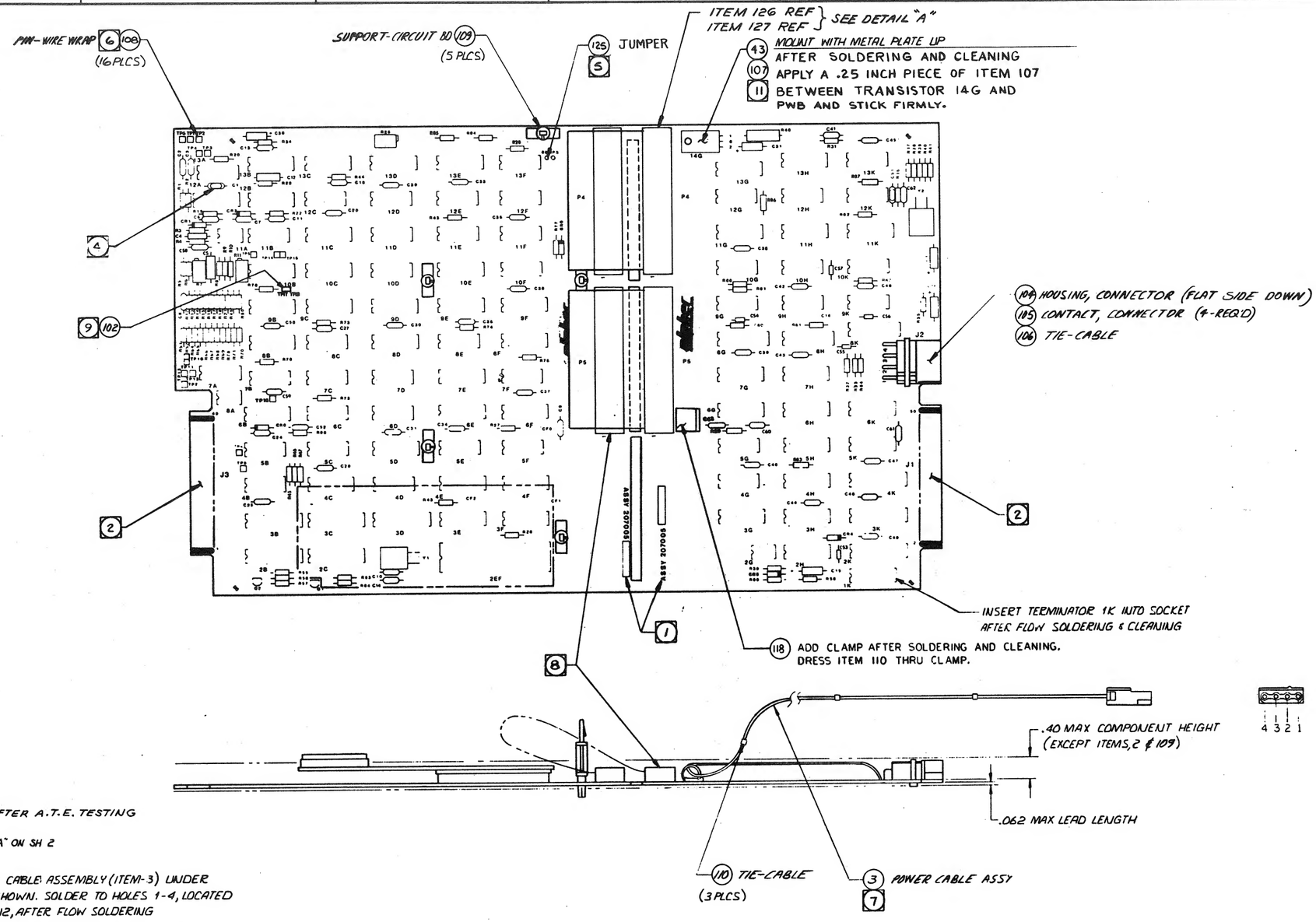
ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207002 — 002 — REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 120915 — 024	98	HEADER, RIGHT ANGLE	J4-7	1		
MP 120915 — 007	99	HEADER, RIGHT ANGLE	J3	1		
MP 105084 — 001	100	CONNECTOR-HOUSING, 4 PIN	J2	1		
MP 106019 — 001	101	CONTACT, PIN	J2	4		
MP 100360 — 001	102	PIN, WIRE WRAP, .025 SQ.	TP1-9	9		
MP 104903 — 001	103	CLIP, JUMPER, .025 SQ. POST	5C	2		
MP 100171 — 002	104	TY-RAP 1/16-1⅛	J2	1		
MP 150107 — 001	105	TAPE, DOUBLE COATED POLYURETHANE FOAM	Y1		1	
MP —	106					
MP 164021 — 926	107	WIRE, HOOKUP 26 AWG	R22,62		1	
MP 100121 — 001	108	DIODE, ZENER (1N5221)2.4V±10%	VR1			
MP —						
MP 207002 — 100	110	ASSY, DWG		0		
MP 207000 — 001	111	PRINTED MASTER		0		
MP 100155 — 437	113	RESISTOR, 1/4W ±1% 34.8K	R45	1		
MP —						
MP —						
MP —						
MP —						
MP —						

FORM 795B (R 09/80) — PAGE 6 OF 7

REVISIONS				207005-100 C
REV	DESCRIPTION	CHK	DATE	APPROVED
A	ENG REL	LVS	9/30/81	LA 9/30/81
B	INCORP ECO 12192	LA	11/16/81	[illegible] 11-18-82
C	INCORP ECO 12291	LA	11/16/81	[illegible] 11-16-82
D	INCORP ECO 12[illegible]	LA	11/16/81	[illegible] 11-17-82
01	PIL REL ERO 820509	KAM	3/5/82	[illegible]
02	ECO 12096 MS	KAM	[illegible]	[illegible]
03	ECO 12178 BV	KAM	[illegible]	[illegible]
04	ECO 12307 ECB	[illegible]	[illegible]	[illegible]
05	ECO 12442	KAM	[illegible]	[illegible]
A	PROD REL ECO 12[illegible]	ECB	[illegible]	[illegible]
B	ECO 12718 JJZ	[illegible]	[illegible]	[illegible]
C	ECO 12849 JJZ	[illegible]	[illegible]	[illegible]



(9) ADD CLIP AFTER A.T.E. TESTING

SEE DETAIL "A" ON SH 2

ROUTE POWER CABLE ASSEMBLY (ITEM-3) UNDER PWB AS SHOWN. SOLDER TO HOLES 1-4, LOCATED AT REAR OF J2, AFTER FLOW SOLDERING

PRESS TEST POINT PINS (ITEM-108) INTO PWB PRIOR TO FLOW SOLDERING

INSTALL "90 IPS" JUMPER CU-002 ASSEMBLY ONLY

COMPONENTS MARKED WITH TRIANGLE IN CORNER HAVE UNIQUE VALUES FOR EACH ASSEMBLY VERSION

3. FOR SCHEMATIC REFER TO DWG 207005-200

MASK CONNECTOR FINGERS PRIOR TO FLOW SOLDERING

(1) STAMP DASH NO. AND REV LTR USING A PERMANENT AND LEGIBLE MARKING METHOD, (2- PLACES)

NOTES:

PART NO. SEE SEPARATE M/L

DSC: R

D & D MGR	11-16-81
ME MGR	
DOC MGR	11-12-81
UL/CSA	✓

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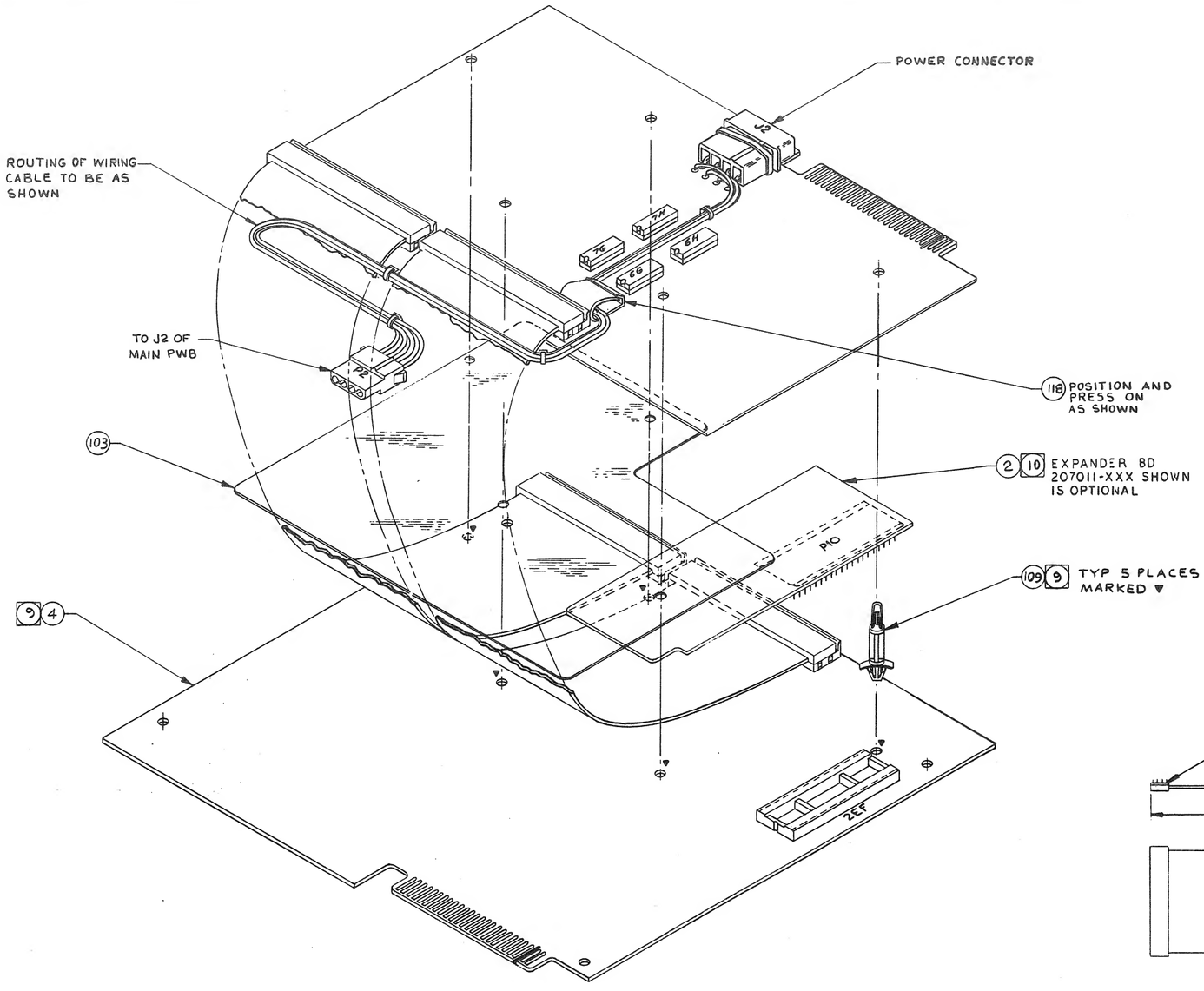
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS .X= .XX= .XXX= ANGLES= DO NOT SCALE DRAWING	APPROVAL	DATE	DWN L. SCHMITT 9/1/81
	MECH	11-2-81	CHK 9/24/81
	ELEC 9/17/81		TITLE ASSY, PWB-CONTROLLER
	MFG 9/24/81		
	MAT 9/24/81		
	QA 11/16/81		CODE IDENT 32274 / SIZE D / DWG NO 207005-100 / REV C
	MKTG 11/17/81		
	ISSUED 11/18		SCALE 1:1 / MOD 50040-001 / SH 1 OF 2

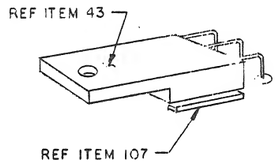
ARCH. SCH. 50041-001

ARC. P/L 20099-901-3A1

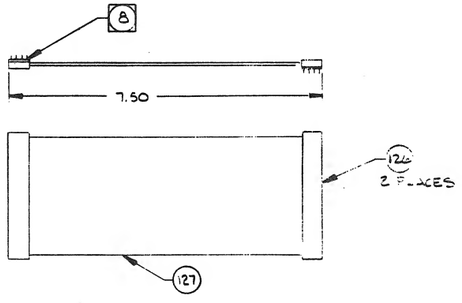
22b.

REVISIONS				207005-100 C
REV.	DESCRIPTION	CHK.	DATE	APPROVED
—	SEE SHT 1	—	—	—





DETAIL B
SCALE: NONE



DETAIL "A"
2 PLACES
SCALE: NONE

1 SEE DETAIL "B"

10 PLUG ITEM 2 (MICROCOMPUTER ASSEMBLY) INTO SOCKET OF CONTROLLER PWB AT POSITION 2EF AS SHOWN.

9 BREAK ITEM 4 (CONTROLLER PWB) AT SLOTS BETWEEN P4 AND P5 CABLES. CUT OFF EXCESS TABS AND MOUNT PWBS USING ITEM 109 (SUPPORT) AS SHOWN.

NOTES: UNLESS OTHERWISE SPECIFIED

SCALE	SIZE		REV.
1:1	D	207005-100	C
DO NOT SCALE THIS DRAWING	CODE IDENT	52465	SHEET 2 OF 2

FORM 388 (R. 1-78) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-5829

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, PWB - CONTROLLER - 30 IPS DSC: R | DOC CODE: Q120

ASSEMBLY PART NUMBER: S7011 — 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207005 — 200	1	SCHEMATIC		0		
207041 — 001	2	ASSY, 8-BIT EXPANDER MICROCOMPUTER	2 EF(207011-001 OPTIONAL)	1		
207021 — 001	3	ASSY, POWER CABLE - CONTROL		1		
207004 — 001	4	PROCESS BOARD		1		
123029 — 001	5	I.C. 74LS00	7B, 11D	2		
123149 — 001	6	I.C. 74LS01	13F	1		
123031 — 001	7	I.C. 74LS04	10D, 12E, 12K	3		
123032 — 001	8	I.C. 74LS08	5C, 5G	2		
123034 — 001	9	I.C. 74LS11	10F	1		
123047 — 001	10	I.C. 74LS14	5B	1		
123035 — 001	11	I.C. 74LS32	5F, 11F	2		
123093 — 001	12	I.C. 74LS51	7A	1		
123084 — 001	13	I.C. 74LS109	13E	1		
123100 — 001	14	I.C. 74LS138	11C, 5D, 10E	3		

		DATE	REV	ECO	DATE/SIGNATURE	REV	ECO	DATE/SIGNATURE
PREPARED BY	SUE REDMOND	01-14-82	M	12849				
CHECKED BY	GIL PEREZ	01-26-82	L	12771				
DESIGN ENGINEER	GIL PEREZ	01-29-82	K	12741				
			J	REV & REDWN 12730		N	12986	

DWG REL NO. 820287 DATE 02 01 82 (M M D D Y Y)

NEXT ASSEMBLY 207350

MODEL NO. F420-30

FORM 795 (R 03/82)

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
123085 — 001	15	I.C. 74LS139	11G	1		
123095 — 001	16	I.C. 74LS153	3E, 4E, 3F, 4F	4		
123231 — 001	17	I.C. CD4502B	9B, 9C	2		
123090 — 001	18	I.C. 74LS163	9D, 13D	2		
123086 — 001	19	I.C. 74LS164	4D, 5E, 13K	3		
123232 — 001	20	I.C. 74LS166	4C, 7E, 13G, 2H	4		
123096 — 001	21	I.C. 74LS174	10C, 9E, 11H	3		
123045 — 001	22	I.C. 74LS175	4H, 5H, 5K	3		
123233 — 001	23	I.C. 74LS195	3G, 3H	2		
123097 — 001	24	I.C. 74LS367	6G, 7G, 6H, 7H, 6K	5		
123091 — 001	25	I.C. 74LS374	3C	1		
123203 — 001	26	I.C. 74LS393	9G, 10G, 9H, 10K, 9K	5		
123234 — 001	27	I.C. 74S240	2B, 3B, 3K, 4K	4		
100234 — 001	28	I.C. 9602	12B, 13B	2		
123245 — 001	29	I.C. 9401	13A, 11E	2		
100345 — 001	30	I.C. MC4044P	8E	1		
123069 — 001	31	I.C. 74S124	12A	1		
123235 — 001	32	I.C. MC14040	13C, 6F, 8F	3		
207029 — 001	33	ASSY, PROM 512 X 4 (READ SEQUENCER)	10B	1		
207026 — 001	34	ASSY, PROM 256 X 4 (WRITE SEQUENCER	9F	1		
207024 — 001	35	ASSY, PROM 32 X 8 (READ DECODER)	6E	1		

FORM 795B (R 09/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
123238 — 001	36	I.C. MM5257N-25	8G, 8H, 8K	3		
125040 — 001	37	I.C. TL082P	11A	1		
101022 — 001	38	I.C. LM311	2G	1		
123036 — 001	39	I.C. 74LS74	11B, 6C, 12D, 12F, 12G, 12H	6		
100336 — 001	40	I.C. 7438	4B	1		
207027 — 001	41	ASSY, PROM 256 X 4 (HOST SEQUENCER)	11K	1		
207025 — 001	42	ASSY, PROM 32 X 8(WRITE ENCODER)	13H	1		
125006 — 005	43	I.C. UA7805UC	14G	1		
123237 — 001	44	I.C. 74LS373	3D	1		
123023 — 001	45	I.C. 74S74	7D, 6D, 7F	3		
123028 — 001	46	I.C. 74S00	8C	1		
123046 — 001	47	I.C. 74S04	7C	1		
101031 — 001	48	I.C. 75452	6A	1		
123119 — 001	49	I.C. 74S163	8D	1		
123120 — 001	50	I.C. 74S174	8B	1		
123152 — 001	51	I.C. 74LS273	2C	1		
146014 — 016	52	SOCKET, DIP - 16 CONTACTS	1K, 6B	2		
146014 — 040	53	SOCKET, DIP - 40 CONTACTS	2EF	1		
107201 — 001	54	DIODE 1N4150	CR1, 3-6	5		
100373 — 012	55	DIODE, ZENER 1N759A	CR2	1		
106500 — 114	56	CRYSTAL 3.579545 MHz	Y2	1		

FORM 795B (R 09/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 106500 — 115	57	CRYSTAL 6.00 MHz	Y1	1		
MP 101156 — 105	58	RESISTOR, ¼w ±5% 1.0M	R59	1		
MP 101156 — 302	59	RESISTOR, ¼w ±5% 3K	R2,8	2		
MP 101156 — 750	60	RESISTOR, ¼w ±5% 75	R20,42	2		
MP 101156 — 392	61	RESISTOR, ¼w ±5% 3.9K	R87	1		
MP 101156 — 511	62	RESISTOR, ¼w ±5% 510	R3,5,19,35	4		
MP 101156 — 102	63	RESISTOR, ¼w ±5% 1K	R1,28,29,31-34,36-41,47,51,52,55,60-62,64-66,R73-77,79	29		
MP —						
MP 101156 — 472	64	RESISTOR, ¼w ±5% 4.7K	R26,27,43,45,46,56,57,86	8		
MP 101156 — 512	65	RESISTOR, ¼w ±5% 5.1K	R23,44	2		
MP 101156 — 103	66	RESISTOR, ¼w ±5% 10K	R24,78	2		
MP 101156 — 362	67	RESISTOR, ¼w ±5% 3.6K	R6, 80-82	4		
MP 101156 — 333	68	RESISTOR, ¼w ±5% 33K	R13,14	2		
MP 101156 — 473	69	RESISTOR, ¼w ±5% 47K	R22,58	2		
MP 101156 — 244	70	RESISTOR, ¼w ±5% 240K	R30	1		
MP 100155 — 164	71	RESISTOR, ¼w ±1% 49.9	R53	1		
MP 101156 — 203	72	RESISTOR, ¼w ±5% 20K	R72	1		
MP 101156 — 562	73	RESISTOR, ¼w ±5% 5.6K	R4	1		
MP 101156 — 154	74	RESISTOR, ¼w ±5% 150K	R12	1		
MP 100155 — 232	75	RESISTOR, ¼w ±1% 255	R54	1		
MP 100155 — 414	76	RESISTOR, 1/4w ±1% 20K	R9,10,15,16,21,50,68,70	8		

FORM 795B (R 09/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 100155 — 385	77	RESISTOR, 1/4w ±1% 10K	R18,49,69,71	4		
MP 100155 — 443	78	RESISTOR, 1/4w ±1% 40.2K	R17,67	2		
MP 101156 — 271	79	RESISTOR, ¼W ± 5% 270 OHMS	R63	1		
MP 100067 — 101	80	RESISTOR, 1w ±5% 100	R48	1		
MP 138002 — 503	81	POTENTIOMETER ½w, 50K	R11	1		
MP 138002 — 103	82	POTENTIOMETER ½w, 10K	R25,R7	2		
MP ~~138002 — 502~~	83	~~POTENTIOMETER ½w, 5K~~	R7	1		
MP 142032 — 002	84	TERMINATOR, 16 PIN, 180/390 OHM	1K	1		
MP 102768 — 225	85	CAP., TANT. 10v ±20% 2.2uf	C15	1		
MP 102768 — 475	86	CAP., TANT. 10v ±20% 4.7uf	C20	1		
MP 102768 — 226	87	CAP., TANT. 10v ±20% 22uf	C16	1		
MP 102769 — 475	88	CAP., TANT. 35v ±20% 4.7uf	C17,21	2		
MP 102668 — 472	89	CAP., CER. 50v ±5% 4700pf NPO	C4	1		
MP 102665 — 104	90	CAP., CER. 50v -20+80% 0.10uf Z5U	C2,3,6,7,8,24-50	32		
MP 102669 — 301	91	CAP., CER. 100v ±5% 300pf NPO	C9,10,60,61,63	5		
MP 102667 — 563	92	CAP., CER. 100v ±10% .056uf X7R	C5	1		
MP 102669 — 150	93	CAP., CER. 100v ±5% 15pf NPO	C14	1		
MP 102669 — 330	94	CAP., CER. 100v ±5% 33pf NPO	C1	1		
MP 102669 — 911	95	CAP., CER. 100v ±5% 910pf NPO	C13	1		
MP 102668 — 122	96	CAP., CER. 50v ±5% 1200pf NPO	C19	1		
MP 102668 — 822	97	CAP., CER. 50v ±5% 8200pf NPO	C12	1		

FORM 795B (R 09/80)

ASSEMBLY PARTS LIST (CONTINUATION)

S7011 MP 207005 — 001 REV N

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 102666 — 479	98	CAP., CER. 50v ±5% 4.7pf	C51	1		
MP 102669 — 561	99	CAP., CER.100v ±5% 560pf NPO	C52	1		
MP 151031 — 001	100	TRANSISTOR, PNP 2N3906	Q1	1		
MP 151030 — 001	101	TRANSISTOR, NPN 2N3904	Q2	1		
MP 104903 — 001	102	CLIP, JUMPER .025 SQ POST	TP17-18	1		
MP 207338 — 001	103	SHIELD, CABLE				
MP 105084 — 001	104	CONNECTOR-HOUSING, 4 PIN	J2	1		
MP 106019 — 001	105	CONTACT, PIN	J2	4		
MP 100171 — 002	106	TY-RAP 1/16 - 1¼	J2	1		
MP 150107 — 001	107	TAPE, DOUBLE COATED POLYURETHANE FOAM	14G		5 06	
MP 100360 — 001	108	PIN, WIRE WRAP, .025 SQ.	TP1-18	18		
MP 147805 — 001	109	SUPPORT, CIRCUIT BOARD		5		
MP 100171 — 001	110	TY-RAP 1/16 to 5/8		3		
MP 102668 — 272	111	CAP., CER. 50v +5% 2700pf NPO	C11	1		
MP 102664 — 103	112	CAP., CER.50V-20% +80% 0.01uf Z5U	C53-C57	5		
MP 102667 — 102	113	CAP., CER. 100WVDC ±10% 1000pf	C62	1		
MP —	114					
MP 101156 — 682	115	RESISTOR, ¼W ± 5% 6.8K	R83	1		
MP 101156 — 331	116	RESISTOR, 1/4W, ±5% 330	R84	1		
MP 101156 — 221	117	RESISTOR, 1/4W, ±5% 220	R85	1		
MP 104804 — 001	118	CLAMP, CABLE		1		

FORM 795B (R 09/80)

cipher metal products, inc.
Garden Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 001 | REV N
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P —	119					
M P 123123 — 001	120	I.C. 74LS09	4G	1		
M P 123246 — 001	121	I.C. 74LS240	2K	1		
M P 123001 — 001	122	I.C. 7414	10H	1		
M P 123074 — 001	123	I.C. 74S32	12C	1		
M P 105008 — 006	126	CONN-PC, 50 PIN RIBBON	P4,5	4		
M P 101045 — 001	127	CABLE, FLAT		15		06
M P 102669 — 221	128	CAP., CER. 100WVDC±5% 220Pf	C59	1		
M P 207005 — 100	130	ASSY DWG CONTROLLER		0		
M P 207003 — 001	131	PRINTED MASTER		0		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						

FORM 795 (R 03/82) (Continuation)

PAGE 1 OF 10

cipher metal products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - CONTROLLER - 90 ips | DSC: R | DOC CODE: Q120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207005 — 200	1	SCHEMATIC		0		
207041 — 001	2	ASSY, 8-BIT MICROCOMPUTER EXPANDER	2EF(207011-001 OPTIONAL)	1		
207021 — 001	3	ASSY, POWER CABLE - CONTROL		1		
207004 — 001	4	PROCESS BOARD		1		
123029 — 001	5	I.C. 74LS00	7B, 11D	2		
123149 — 001	6	I.C. 74LS01	13F	1		
123031 — 001	7	I.C. 74LS04	10D, 12E, 12K	3		
123032 — 001	8	I.C. 74LS08	5C, 5G	2		
123034 — 001	9	I.C. 74LS11	10F	1		
123047 — 001	10	I.C. 74LS14	5B	1		
123035 — 001	11	I.C. 74LS32	5F, 11F	2		
123093 — 001	12	I.C. 74LS51	7A	1		
123084 — 001	13	I.C. 74LS109	13E	1		
123100 — 001	14	I.C. 74LS138	11C, 5D, 10E	3		

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 1-14-82	K	12730	R. Hopkins 7/1/83			
CHECKED BY	[illegible]	1-26-82	J	12718	R. Hopkins 3/1/83	P	12986	R. Hopkins 10/4/83
DESIGN ENGINEER	[illegible]	1-29-82	H	12652	R. Hopkins 3/23/83	N	12849	R. Hopkins 9/14/83
			G1	12643	R. Hopkins 2/10/83	M	12771/A	R. Hopkins 8/1/83
			G	12637	R. Hopkins 2/3/83	L	12741	R. Hopkins 7/12/83

DWG REL NO. 820287 | DATE 2 1 82 (M M D D Y Y)
NEXT ASSEMBLY 207350
MODEL NO. F420-90

FORM 795 (R 05/80)

PAGE 1 OF 10

cipher metal products, inc.
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 123085 — 001	15	I.C. 74LS139	11G	1		
M P 123095 — 001	16	I.C. 74LS153	3E, 4E, 3F, 4F	4		
M P 123231 — 001	17	I.C. CD4502B	9B, 9C	2		
M P 123090 — 001	18	I.C. 74LS163	9D,13D	2		
M P 123086 — 001	19	I.C. 74LS164	4D, 5E, 13K	3		
M P 123232 — 001	20	I.C. 74LS166	4C, 7E, 13G, 2H	4		
M P 123096 — 001	21	I.C. 74LS174	10C, 9E, 11H	3		
M P 123045 — 001	22	I.C. 74LS175	4H,5H, 5K	3		
M P 123233 — 001	23	I.C. 74LS195	3G, 3H	2		
M P 123097 — 001	24	I.C. 74LS367	6G, 7G, 6H, 7H, 6K	5		
M P 123091 — 001	25	I.C. 74LS374	3C	1		
M P 123203 — 001	26	I.C. 74LS393	9G, 10G, 9H, 10K, 9K	5		
M P 123234 — 001	27	I.C. 74S240	2B, 3B, 3K, 4K	4		
M P 100234 — 001	28	I.C. 9602	12B, 13B	2		
M P 123245 — 001	29	I.C. 9401	13A, 11E	2		
M P 100345 — 001	30	I.C. MC4044P	8E	1		
M P 123069 — 001	31	I.C. 74S124	12A	1		
M P 123235 — 001	32	I.C. MC14040BCP	13C, 6F, 8F	3		
M P 207029 — 001	33	ASSY, PROM 512 x 4 (READ SEQUENCER)	10B	1		
M P 207026 — 001	34	ASSY, PROM 256 X 4 (WRITE SEQUENCER)	9F	1		
M P 207024 — 001	35	ASSY, PROM 32 x 8 (READ DECODER)	6E	1		

FORM 795B (R 08/80)

PAGE 2 OF 10

cipher metal products, inc.
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 123238 — 001	36	I.C. MM5257N-25	8G, 8H, 8K	3		
M P 125040 — 001	37	I.C. TL082P	11A	1		
M P 101022 — 001	38	I.C. LM311	2G	1		
M P 123036 — 001	39	I.C. 74LS74	11B, 6C, 12D, 12G,12H	5		
M P 100336 — 001	40	I.C. 7438	4B	1		
M P 207027 — 001	41	ASSY, PROM 256 X 4 (HOST SEQUENCER)	11K	1		
M P 207025 — 001	42	ASSY, PROM 32 X 8 (WRITE ENCODER)	13H	1		
M P 125006 — 005	43	I.C. UA7805UC	14G	1		
M P 123237 — 001	44	I.C. 74LS373	3D	1		
M P 123023 — 001	45	I.C. 74S74	7D, 6D, 7F	3		
M P 123028 — 001	46	I.C. 74S00	8C	1		
M P 123046 — 001	47	I.C. 74S04	7C	1		
M P 101031 — 001	48	I.C. 75452	6A	1		
M P 123119 — 001	49	I.C. 74S163	8D	1		
M P 123120 — 001	50	I.C. 74S174	8B	1		
M P 123152 — 001	51	I.C. 74LS273	2C	1		
M P 146014 — 016	52	SOCKET, DIP - 16 CONTACTS	1K, 6B	2		
M P 146014 — 040	53	SOCKET, DIP - 40 CONTACTS	2EF	1		
M P 107201 — 001	54	DIODE 1N4150	CR1, 3-6	5		
M P 100373 — 012	55	DIODE, ZENER 1N759A	CR2	1		
M P 106500 — 114	56	CRYSTAL 3.579545 MHz	Y2	1		

FORM 795B (R 08/80)

PAGE 3 OF 10

cipher metal products, inc.
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 106500 — 115	57	CRYSTAL 6.00 MHz	Y1	1		
M P 101156 — 105	58	RESISTOR, ¼w ±5% 1.0M	R59	1		
M P 101156 — 000	59	RESISTOR, ¼w ±5% 0Ω	R?	1		
M P 101156 — 750	60	RESISTOR, ¼w ±5% 75	R20,42	2		
M P 101156 — 392	61	RESISTOR, ¼w ±5% 3.9K	R87	1		
M P 101156 — 511	62	RESISTOR, ¼w ±5% 510	R3,19,35	3		
M P 101156 — 102	63	RESISTOR, ¼w ±5% 1K	R1,28,29,31-34,36-41, 47,51,52,55, 60-62, 64-66, R73-77,79	29		
M P —						
M P 101156 — 472	64	RESISTOR, ¼w ±5% 4.7K	R26,27,43,45,46,56, 57,86	8		
M P 101156 — 512	65	RESISTOR, ¼w ±5% 5.1K	R23,44	2		
M P 101156 — 103	66	RESISTOR, ¼w ±5% 10K	R24,78	2		
M P 101156 — 362	67	RESISTOR, ¼w ±5% 3.6K	R6, 80-82	4		
M P 101156 — 333	68	RESISTOR, ¼w ±5% 33K	R13,14	2		
M P 101156 — 473	69	RESISTOR, ¼w ±5% 47K	R22,58	2		
M P 101156 — 244	70	RESISTOR, ¼w ±5% 240K	R30	1		
M P 100155 — 164	71	RESISTOR, ¼w ±1% 49.9	R53	1		
M P 101156 — 203	72	RESISTOR, ¼w ±5% 20K	R72	1		
M P 101156 — 562	73	RESISTOR, ¼w ±5% 5.6K	R4,8	2		
M P 101156 — 823	74	RESISTOR, ¼w ±5% 82K	R12	1		
M P 100155 — 232	75	RESISTOR, ¼w ±1% 255	R54	1		
M P 100155 — 414	76	RESISTOR, 1/4w ±1% 20K	R9,10,15,16,21,50, 68,70	8		

FORM 795B (R 08/80)

PAGE 4 OF 10

cipher metal products, inc.
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 100155 — 385	77	RESISTOR, 1/4w ±1% 10K	R18,49,69,71	4		
M P 100155 — 443	78	RESISTOR, 1/4w ±1% 40.2K	R17,67	2		
M P 101156 — 271	79	RESISTOR, ¼W ± 5% 270 OHMS	R63	1		
M P 100067 — 101	80	RESISTOR, 1w ±5% 100	R48	1		
M P 138002 — 503	81	POTENTIOMETER ¾w, 50K	R11	1		
M P 138002 — 103	82	POTENTIOMETER ¾w, 10K	R25,R7	2		
M P 138002 — 502	83	POTENTIOMETER ¾w, 5K	R?	1		
M P 142032 — 002	84	TERMINATOR,16 PIN, 180/390 OHM	1K	1		
M P 102768 — 225	85	CAP., TANT. 10v+20% 2.2uf	C15	1		
M P 102768 — 475	86	CAP., TANT. 10v +20% 4.7uf	C20	1		
M P 102768 — 226	87	CAP., TANT. 10v +20% 22uf	C16	1		
M P 102769 — 475	88	CAP., TANT. 35v +20% 4.7uf	C17,21	2		
M P 102668 — 472	89	CAP., CER. 50v ±5% 4700pf NPO	C4,5	2		
M P 102665 — 104	90	CAP., CER. 50v -20+80% 0.10uf Z5U	C2,3,6,7,8,24-50	32		
M P 102669 — 301	91	CAP., CER. 100v ±5% 300pf NPO	C9,10,13,60,61,63	6		
M P —	92					
M P 102669 — 150	93	CAP., CER. 100v ±5% 15pf NPO	C14	1		
M P 102673 — 829	94	CAP., CER. 100 V ± 5% 8.2pf NPO	C1	1		
M P —	95					
M P 102668 — 391	96	CAP., CER. 50v ±5% 390pf NPO	C19	1		
M P 102668 — 272	97	CAP., CER. 50v ±5% 2700pf NPO	C12	1		

FORM 795B (R 08/80)

PAGE 5 OF 10

cipher data products, inc.

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 102666 — 479	98	CAP., CER. 50v ±5% 4.7pf	C51	1		
M P 102669 — 561	99	CAP., CER.100v ±5% 560pf NPO	C52	1		
M P 151031 — 001	100	TRANSISTOR, PNP 2N3906	Q1	1		
M P 151030 — 001	101	TRANSISTOR, NPN 2N3904	Q2	1		
M P 104903 — 001	102	CLIP, JUMPER .025 SQ POST	TP17-18	1		
M P 207338 — 001	103	SHIELD, CABLE		1		
M P 105084 — 001	104	CONNECTOR-HOUSING, 4 PIN	J2	1		
M P 106019 — 001	105	CONTACT, PIN	J2	4		
M P 100171 — 002	106	TY-RAP 1/16-1¼	J2	1		
M P 150107 — 001	107	TAPE, DOUBLE COATED POLYURETHANE FOAM	14G		5	06
M P 100360 — 001	108	PIN, WIRE WRAP, .025 SQ.	TP1-18	18		
M P 147805 — 001	109	SUPPORT, CIRCUIT BOARD		5		
M P 100171 — 001	110	TY-RAP 1/16 TO 5/8		3		
M P 102669 — 911	111	CAP., CER.100v ±5% 910pf NPO	C11	1		
M P 102664 — 103	112	CAP.,CER.50V-20% +80% 0.01uf Z5U	C53-C57	5		
M P 102667 — 102	113	CAP., CER. 100WVDC ±10% 1000pf	C62	1		
M P 101156 — 202	114	Resistor, 1/4W±5% 2K	R5	1		
M P 101156 — 682	115	RESISTOR, ¼W ± 5% 6.8K	R83	1		
M P 101156 — 331	116	RESISTOR, 1/4W ±5% 330	R84	1		
M P 101156 — 221	117	RESISTOR, 1/4W ±5% 220	R85	1		
M P 104804 — 001	118	CLAMP, CABLE		1		

FORM 795B (R 08/80)

cipher data products, inc.
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 002 | REV P
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P —	119					
M P 123123 — 001	120	I.C. 74LS09	4G	1		
M P 123246 — 001	121	I.C. 74LS240	2K	1		
M P 123001 — 001	122	I.C. 7414	10H	1		
M P 123074 — 001	123	I.C. 74S32	12C	1		
M P —	124					
M P 100383 — 930	125	WIRE, JUMPER 30GA	90IPS (USE BARE WIRE)	1	.05	
M P 105008 — 006	126	CONN-PC, 50 PIN RIBBON	P4,5	4		
M P 101045 — 001	127	CABLE, FLAT		15		06
M P 102669 — 221	128	CAP., CER. 100 WVDC±5% 220Pf	C59	1		
M P —	129					
M P 207005 — 100	130	ASSY DWG CONTROLLER		0		
M P 207003 — 001	131	PRINTED MASTER		0		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						

FORM 795 (R 03/82) (Continuation)

cipher data products, inc.
Gordon Grove Division

ASSEMBLY PARTS LIST

ASSY TITLE: ASSY, PWB - CONTROLLER - 30 IPS DSC:R
DOC CODE: Q120

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207005 — 200	1	SCHEMATIC		0		
M P 207011 — 002	2	ASSY, 8-BIT MICROCOMPUTER EXPANDER	2EF (207041-002 is Alternate)	1		
M P 207021 — 001	3	ASSY, POWER CABLE - CONTROL		1		
M P 207004 — 001	4	PROCESS BOARD		1		
M P 123029 — 001	5	I.C. 74LS00	7B, 11D	2		
M P 123149 — 001	6	I.C. 74LS01	13F	1		
M P 123031 — 001	7	I.C. 74LS04	10D, 12E, 12K	3		
M P 123032 — 001	8	I.C. 74LS08	5C, 5G	2		
M P 123034 — 001	9	I.C. 74LS11	10F	1		
M P 123047 — 001	10	I.C. 74LS14	5B	1		
M P 123035 — 001	11	I.C. 74LS32	5F, 11F	2		
M P 123093 — 001	12	I.C. 74LS51	7A	1		
M P 123084 — 001	13	I.C. 74LS109	13E	1		
M P 123100 — 001	14	I.C. 74LS138	11C, 5D, 10E	3		

		DATE
PREPARED BY	J. MAY	01-11-83
CHECKED BY	Tom Mark	1/17/83
DESIGN ENGINEER	L. Hallen	1/17/83

REV	ECO	DATE / SIGNATURE
L	12986	L. Hallen
K	12855	K. Hallen

DWG REL NO. 820755 01 17 83 (M M D D Y Y)
NEXT ASSEMBLY 207350
MODEL NO. F420-30

FORM 795 (R 03/82)

cipher data products, inc.
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 123085 — 001	15	I.C. 74LS139	11G	1		
M P 123095 — 001	16	I.C. 74LS153	3E, 4E, 3F, 4F	4		
M P 123231 — 001	17	I.C. CD4502B	9B, 9C	2		
M P 123090 — 001	18	I.C. 74LS163	9D, 13D	2		
M P 123086 — 001	19	I.C. 74LS164	4D, 5E, 13K	3		
M P 123232 — 001	20	I.C. 74LS166	4C, 7E, 13G, 2H	4		
M P 123096 — 001	21	I.C. 74LS174	10C, 9E, 11H	3		
M P 123045 — 001	22	I.C. 74LS175	4H, 5H, 5K	3		
M P 123233 — 001	23	I.C. 74LS195	3G, 3H	2		
M P 123097 — 001	24	I.C. 74LS367	6G, 7G, 6H, 7H, 6K	5		
M P 123091 — 001	25	I.C. 74LS374	3C	1		
M P 123203 — 001	26	I.C. 74LS393	9G, 10G, 9H, 10K, 9K	5		
M P 123234 — 001	27	I.C. 74S240	2B, 3B, 3K, 4K	4		
M P 100234 — 001	28	I.C. 9602	12B, 13B	2		
M P 123245 — 001	29	I.C. 9401	13A, 11E	2		
M P 100345 — 001	30	I.C. MC4044P	8E	1		
M P 123069 — 001	31	I.C. 74S124	12A	1		
M P 123235 — 001	32	I.C. MC14040	13C, 6F, 8F	3		
M P 207029 — 001	33	ASSY, PROM 512 X 4 (READ SEQUENCER)	10B	1		

FORM 795 (R 03/82) (Continuation)

cipher data products, inc.
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207026 — 001	34	ASSY, PROM 256 X 4 (WRITE SEQUENCER)	9F	1		
M P 207024 — 001	35	ASSY, PROM 32 X 8 (READ DECODER)	6E	1		
M P 123238 — 001	36	I.C. MM5257N-25	8G, 8H, 8K	3		
M P 125040 — 001	37	I.C. TL082P	11A	1		
M P 101022 — 001	38	I.C. LM311	2G	1		
M P 123036 — 001	39	I.C. 74LS74	11B, 6C, 12D, 12F 12G, 12H	6		
M P 100336 — 001	40	I.C. 7438	4B	1		
M P 207027 — 001	41	ASSY, PROM 256 X 4 (HOST SEQUENCER)	11K	1		
M P 207025 — 001	42	ASSY, PROM 32 X 8 (WRITE ENCODER)	13H	1		
M P 125006 — 005	43	I.C. UA7805UC	14G	1		
M P 123237 — 001	44	I.C. 74LS373	3D	1		
M P 123023 — 001	45	I.C. 74S74	7D, 6D, 7F	3		
M P 123028 — 001	46	I.C. 74S00	8C	1		
M P 123046 — 001	47	I.C. 74S04	7C	1		
M P 101031 — 001	48	I.C. 75452	6A	1		
M P 123119 — 001	49	I.C. 74S163	8D	1		
M P 123120 — 001	50	I.C. 74S174	8B	1		
M P 123152 — 001	51	I.C. 74LS273	2C	1		
M P 146014 — 016	52	SOCKET, DIP - 16 CONTACTS	1K, 6B	2		

FORM 795 (R 03/82) (Continuation)

cipher data products, inc.
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 146014 — 040	53	SOCKET, DIP - 40 CONTACTS	2EF	1		
M P 107201 — 001	54	DIODE IN4150	CR1, 3-6	5		
M P 100373 — 012	55	DIODE, ZENER IN759A	CR2	1		
M P 106500 — 114	56	CRYSTAL 3.579545 MHz	Y2	1		
M P 106500 — 115	57	CRYSTAL 6.00 MHZ	Y1	1		
M P 101156 — 105	58	RESISTOR, ¼w ±5% 1.0M	R59	1		
M P 101156 — 302	59	RESISTOR, ¼w ±5% 3K	R2, 8	2		
M P 101156 — 750	60	RESISTOR, ¼w ±5% 75	R20, 42	2		
M P 101156 — 392	61	RESISTOR, ¼w ±5% 3.9K	R87	1		
M P 101156 — 511	62	RESISTOR, ¼w ±5% 510	R3, 5, 19, 35	4		
M P 101156 — 102	63	RESISTOR, ¼w ±5% 1K	R1,28, 29, 31-34, 36-41 47, 51, 52, 55, 60-62, 64-66, R73-77, 79	29		
M P —			R26, 27, 43, 45, 46, 56 57, 86	8		
M P 101156 — 472	64	RESISTOR, ¼w ±5% 4.7K	R23, 44	2		
M P 101156 — 512	65	RESISTOR, ¼w ±5% 5.1K	R24, 78	2		
M P 101156 — 103	66	RESISTOR, ¼w ±5% 10K	R6, 80-82	4		
M P 101156 — 362	67	RESISTOR, ¼w ±5% 3.6K	R13, 14	2		
M P 101156 — 333	68	RESISTOR, ¼w ±5% 33K	R22, 58	2		
M P 101156 — 473	69	RESISTOR, ¼w ±5% 47K	R30	1		
M P 101156 — 244	70	RESISTOR, ¼w ±5% 240K				

FORM 795 (R 03/82) (Continuation)

cipher
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 100155 — 164	71	RESISTOR, ¼w ±1% 49.9	R53	1		
M P 101156 — 203	72	RESISTOR, ¼w ±5% 20K	R72	1		
M P 101156 — 562	73	RESISTOR, ¼w ±5% 5.6K	R4	1		
M P 101156 — 154	74	RESISTOR, ¼w ±5% 150K	R12	1		
M P 100155 — 232	75	RESISTOR, ¼w ±1% 225	R54	1		
M P 100155 — 414	76	RESISTOR, ¼w ±1% 20K	R9, 10, 15, 16, 21, 50 68, 70	8		
M P 100155 — 385	77	RESISTOR, ¼w ±1% 10K	R18, 49, 69, 71	4		
M P 100155 — 443	78	RESISTOR, ¼w ±1% 40.2K	R17, 67	2		
M P 101156 — 271	79	RESISTOR, ¼w ±5% 270 OHMS	R63	1		
M P 100067 — 101	80	RESISTOR, 1¼w ±5% 100	R48	1		
M P 138002 — 503	81	POTENTIOMETER ½w, 50K	R11	1		
M P 138002 — 103	82	POTENTIOMETER ½w, 10K	R25, R7	2		
~~M P 138002 — 502~~	~~83~~	~~POTENTIOMETER ½w, 5K~~	~~R7~~	~~1~~		
M P 142032 — 002	84	TERMINATOR, 16 PIN, 180/390 OHM	1K	1		
M P 102768 — 225	85	CAP., TANT. 10v ±20% 2.2uf	C15	1		
M P 102768 — 475	86	CAP., TANT. 10v ±20% 4.7uf	C20	1		
M P 102768 — 226	87	CAP., TANT. 10v ±20% 22uf	C16	1		
M P 102769 — 475	88	CAP., TANT. 35v ±20% 4.7uf	C17, 21	2		
M P 102668 — 472	89	CAP., CER. 50v ±5% 4700pf NPO	C4	1		

FORM 795 (R 03/82) (Continuation)

cipher
Gordon Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 102665 — 104	90	CAP., CER. 50v -20+80% 0.10uf Z5U	C2, 3, 6, 7, 8, 24-50	32		
M P 102669 — 301	91	CAP., CER. 100v ±5% 300pf NPO	C9, 10, 60, 61, 63	5		
M P 102667 — 563	92	CAP., CER. 100v ±10% .056uf X7R	C5	1		
M P 102669 — 150	93	CAP., CER. 100v ±5% 15pf NPO	C14	1		
M P 102669 — 330	94	CAP., CER. 100v ±5% 33pf NPO	C1	1		
M P 102669 — 911	95	CAP., CER. 100v ±5% 910pf NPO	C13	1		
M P 102668 — 122	96	CAP., CER. 50v ±5% 1200pf NPO	C19	1		
M P 102668 — 822	97	CAP., CER. 50v ±5% 8200pf NPO	C12	1		
M P 102666 — 479	98	CAP., CER. 50v ±5% 4.7pf	C51	1		
M P 102669 — 561	99	CAP., CER. 100v ±5% 560pf NPO	C52	1		
M P 151031 — 001	100	TRANSISTOR, PNP 2N3906	Q1	1		
M P 151030 — 001	101	TRANSISTOR, NPN 2N3904	Q2	1		
M P 104903 — 001	102	CLIP, JUMPER .025 SQ POST	TP17-18	1		
M P 207338 — 001	103	SHIELD, CABLE				
M P 105084 — 001	104	CONNECTOR-HOUSING, 4 PIN	J2	1		
M P 106019 — 001	105	CONTACT, PIN	J2	4		
M P 100171 — 002	106	TY-RAP 1/16 - 1¾	J2	1		
M P 150107 — 001	107	TAPE, DOUBLE COATED POLYURETHANE FOAM	14G		5	06
M P 100360 — 001	108	PIN, WIRE WRAP, .025 SQ.	TP1- 18	18		

FORM 795 (R 03/82) (Continuation)

cipher
Gordon Grove Division

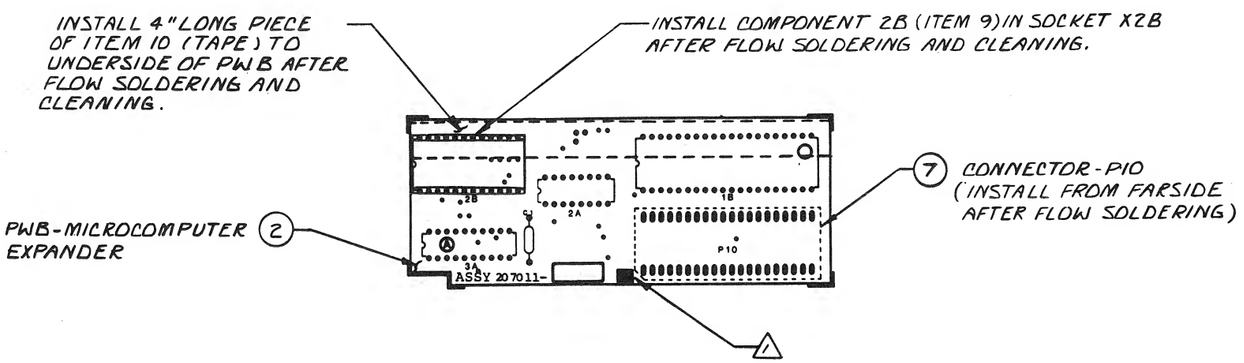
ASSEMBLY PARTS LIST
(CONTINUATION)

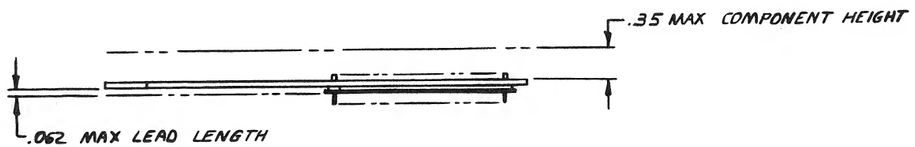
S 7 0 1 1 | M P | 207005 — 003 | REV L
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
147805 - 001	109	SUPPORT, CIRCUIT BOARD		5		
M P 100171 — 001	110	TY-RAP 1/16 to 5/8		3		
M P 102668 — 272	111	CAP., CER. 50v ±5% 2700pf NPO	C11	1		
M P 102664 — 103	112	CAP., CER. 50v -20% +80% 0.01uf Z5U	C53-C57	5		
M P 102667 — 102	113	CAP., CER. 100 WVDC ±10% 1000 pf	C62	1		
M P —	114					
M P 101156 — 682	115	RESISTOR, ¼w ±5% 6.8K	R83	1		
M P 101156 — 331	116	RESISTOR, ¼w ±5% 330	R84	1		
M P 101156 — 221	117	RESISTOR, ¼w ±5% 220	R85	1		
M P 104804 — 001	118	CLAMP, CABLE		1		
M P — —	119					
M P 123123 — 001	120	I.C. 74LS09	4G	1		
M P 123246 — 001	121	I.C. 74LS240	2K	1		
M P 123001 — 001	122	I.C. 7414	10H	1		
M P 123074 — 001	123	I.C. 74S32	12C	1		
M P 105008 — 006	126	CONN-PC, 50 PIN RIBBON	P4,5	4		
M P 101045 — 001	127	CABLE, FLAT		15		06
M P 102669 — 221	128	CAP., CER. 100WVDC±5% 220PF	C59	1		
M P 207005 — 100	130	ASSY DWG CONTROLLER		0		
M P 207003 — 001	131	PRINTED MASTER		0		

FORM 795 (R 01/82) (Continuation)

REVISION					207011-100	1
LTR	DESCRIPTION	DWN	DATE	APVD	DATE	
A	ENG REL	LS	1/14/82	CK	1/11/82	
01	PIL REL ERO 820509	BB	3/1/82	—	—	
01₁	ECO 12121	BB	KAM 3/29/82		4/6/82	
01₂	ECO 12442	KM	KAM 7/16/82		7/16/82	
013	ECO 12505	JAL	8/22/82		9/7/82	
A	PROD REL PER ERO 820424	RC	1/27/83	—	—	





207011-100
REV A

D & D MGR	1-29-82
ME MGR	2-10-82
DOC MGR	1-27-82
UL/CSA	2/1/82
FACR NO. NONE	

PART NUMBER: SEE SEPARATE M/L. Q-120

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS .X± — .XX± — .XXX± — ANGLES± — DO NOT SCALE DRAWING	APPROVAL	DATE
	MECH	2-11-82
	ELEC	1/21/82
	MFG	2/1/82
	MATL	1/29/82
	QA B. DeSoto	1/27/82
	MKTG	1/25/82
	ISSUED	2/1/82

DWN L. SCHOTT 1/14/82 CHK 2-5-82

cipher data products, inc. SAN DIEGO CALIF

TITLE
PWB ASSY-MICROCOMPUTER EXPANDER

CODE IDENT	SIZE	DWG NO	REV
32274	C	207011-100	A

SCALE 1-1 | MOD 40049-001 | SH 1 OF 1

2. FOR SCHEMATIC REFERENCE SEE, DWG. 207011-200.

⚠1 STAMP REVISION LETTER USING A PERMANENT AND LEGIBLE MARKING METHOD.

NOTES:

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DSC: R

ARC. SCH 40041-001 | ARCH. P/L 20077-007 | 160601-009 CR

BRUNING 49-22

ASSEMBLY PARTS LIST

S7011 M2 207011 — 001 REV C
ASSEMBLY PART NUMBER

ASSEMBLY TITLE: ASSY, PWB - MICROCOMPUTER EXPANDER | DSC: R | DOC CODE: Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207011 — 200	1	SCHEMATIC		0		
207010 — 001	2	PROCESS BOARD		1		
123192 — 001	3	I.C. P8035	1B	1		
123045 — 001	4	I.C. 74LS175PCB	2A	1		
123237 — 001	5	I.C. SN74LS373N	3A	1		
102665 — 104	6	CAP., CER. 50v -20+80% 0.1uf	C1	1		
137905 — 040	7	CONNECTOR - DIP PLUG	P10	1		
146014 — 024	8	SOCKET - DIP, 24 CONTACTS	X2B	1		
207028 — 001	9	ASSY, PROM 2K X 8	2B	1		
150107 — 002	10	TAPE, URETHANE FOAM	1/16 x 3/8		4	06
—						
207009 — 001						
207009 — 001	13	PRINTED MASTER		0		
207011 — 100	14	ASSY DWG		0		

		DATE
PREPARED BY	Sue Redmond	1-14-82
CHECKED BY	K Peters	1-26-82
DESIGN ENGINEER	K Morris	1-29-82

DWG REL NO. 820287 2 | DATE 1 | 8 | 2 (M M D D Y Y)

NEXT ASSEMBLY 207005-001

MODEL NO. F420-30/90

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
C	12509/B	K Peters 1/31/82			
B	12506/A	K Peters 1/29/82			

FORM 795 (R 08/80)

ASSEMBLY PARTS LIST

Gardena Grove Division

DSC: R

ASSEMBLY TITLE: ASSY, PWB - MICROCOMPUTER EXPANDER | DOC CODE: Q120

S7011 M2 207011 — 002 REV B
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207011 — 200	1	SCHEMATIC		0		
207010 — 001	2	PROCESS BOARD		1		
123192 — 001	3	I.C. P8035	1B	1		
123045 — 001	4	I.C. 74LS175PCB	2A	1		
123237 — 001	5	I.C. SN74LS373N	3A	1		
102665 — 104	6	CAP., CER. 50V -20+80% 0.1uf	C1	1		
137905 — 040	7	CONNECTOR - DIP PLUG	P10	1		
146014 — 024	8	SOCKET - DIP, 24 CONTACTS	X2B	1		
207028 — 002	9	ASSY, PROM 2K X 8	2B	1		
150107 — 002	10	TAPE, URETHANE FOAM	1/16 X 3/8		4	06
—						
—						
207009 — 001	13	PRINTED MASTER		0		
207011 — 100	14	ASSY DWG		0		

		DATE
PREPARED BY	S. HENCKE	01-17-83
CHECKED BY	Ken Mashburn	1/17/83
DESIGN ENGINEER	K Peters	1/17/83

DWG REL NO. 820455 | DATE 01 | 17 | 83 (M M D D Y Y)

NEXT ASSEMBLY 207005-003

MODEL NO. F420-30/90

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
B	12855	K Peters 3/4/83			
A	PROD. REL.	Ken 1/21/83			

FORM 795 (R 03/82)

REVISIONS				207017-100	04
REV.	DESCRIPTION		CHK.	DATE	APPROVED
A	ENG. REL		LVS	9-25-81	CK 11-13-81
01	PIL REL ERO 820309		KAM	11/5/82	—
02	ECO 12179	HS	KAM	11/22/82	Q. Perez
03	ECO 12243	JAS	KAM	12-2-82	Schmidt
04	ECO 12461	KW	KAM	9/2/82	R. Shields

(18) APPLY .25 LONG UNDER Q1-Q4. APPLY FIRMLY TO PWB AFTER FLOW SOLDER

(2) PWB

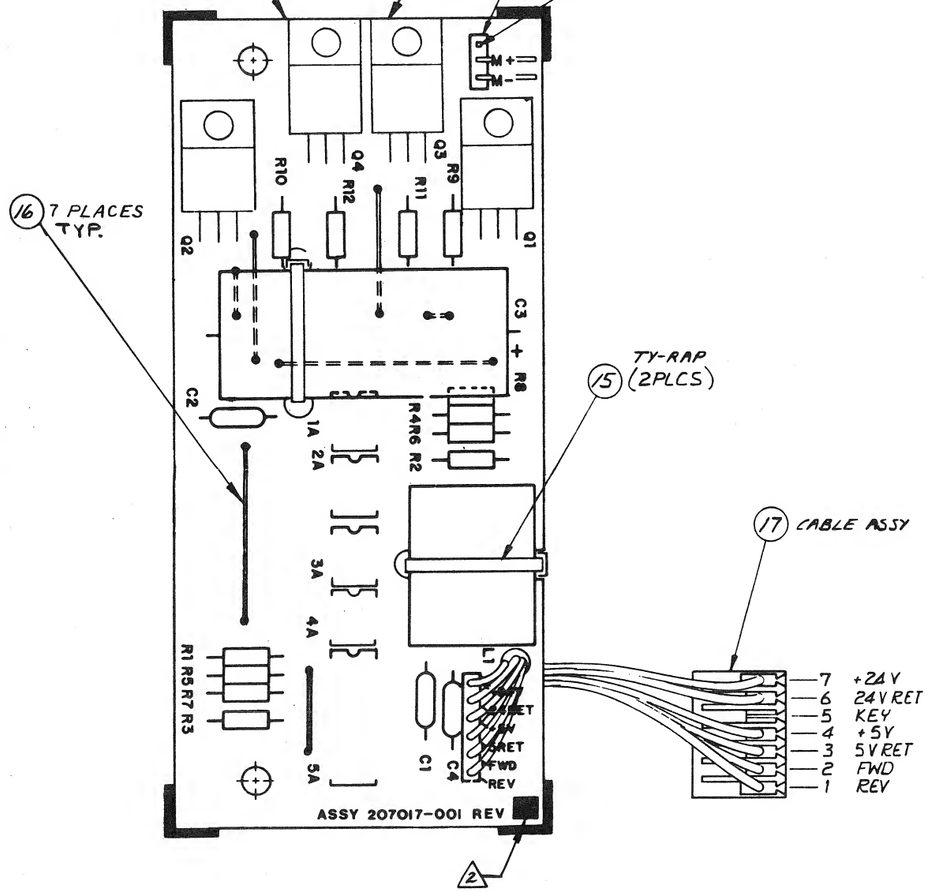
(14) HEADER

CUT OFF OR REMOVE PIN 3 (KEY POSITION)

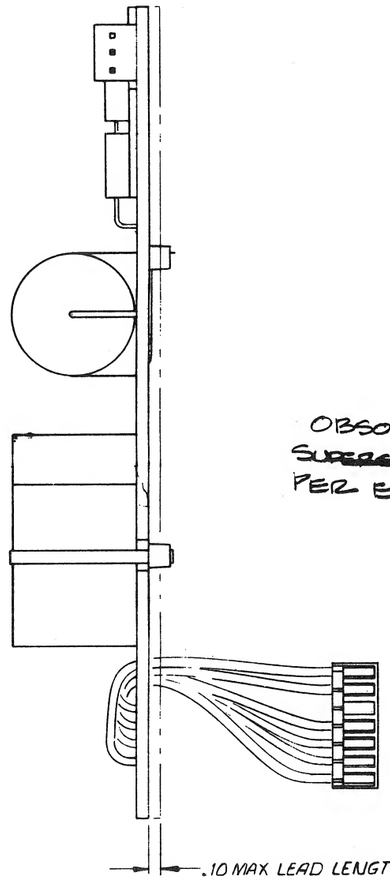
(16) 7 PLACES TYP.

(15) TY-RAP (2PLCS)

(17) CABLE ASSY



7	+24V
6	24V RET
5	KEY
4	+5V
3	5V RET
2	FWD
1	REV



OBSOLETE
SUPERSEDED BY 207069-100
PER ECO 12461 9-1-82

HISTORICAL RECORD
DO NOT DESTROY

D & D MGR		11-12-81
ME MGR		11-12-81
DOC MGR		11-12-81
UL/CSA		11/12/81

PART NO. SEE SEPARATE M/L

Q-120

DSC: 7

⚠C STAMP REVISION LETTER USING A PERMANENT AND LEGIBLE MARKING METHOD.

1. FOR SCHEMATIC REFERENCE SEE DWG 207017-200.

NOTES: UNLESS OTHERWISE SPECIFIED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE DECIMALS .X± .XX± .XXX± ANGLES± DO NOT SCALE DRAWING	APPROVAL	DATE	DWN L. SCHOTT 9/24/81 CHK 9/25/81	cipher data products, inc. SAN DIEGO CALIF
	MECH	11-12-81		
	ELEC	11/10/81	TITLE ASSY PWB MOTOR DRIVER	
	MFG	11/12/81		
	MATL	11/12/81		
	QA	11/12/81	CODE IDENT 32274 / SIZE C / DWG NO 207017-100 / REV 0—	
	MKT	11/12/81		
	ISSUED	11/12/81	SCALE 2:1 / MOD 40011-001 / SH 1 OF 1	

FORM 389 (R. 10/77)

ARC. SCH. # 40012-001

ARCH. P/L # 20009-001

160601-003

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7011 — 207017 — 001 REV 04

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - MOTOR DRIVER DSC:4 | DOC CODE: Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207017 — 200	1	SCHEMATIC		0		
207016 — 001	2	PROCESS BOARD		1		
123244 — 001	3	PHOTOTRANSISTOR 4N28	1A,2A,3A,4A	4		
123236 — 101	4	I.C. 7438	5A	1		
151027 — 002	5	TRANSISTOR, NPN T1P120	Q2,Q4	2		
151028 — 002	6	TRANSISTOR, PNP T1P125	Q1,Q3	2		
101156 — 750	7	RESISTOR, ½w ±5% 75	R1,R3,R5,R7	4		
101156 — 222	8	RESISTOR, ½w ±5% 2.2K	R9,R10,R11,R12	4		
101156 — 682	9	RESISTOR, ½w ±5% 6.8K	R2,R4,R6,R8	4		
102608 — 108	10	CAP.,ELEC. 35v -10%+50% 1000uf	C3	1		
102665 — 104	11	CAP.,CER. 50v -20+80% .1uf	C1,C2,C4	3		
—	12					
122522 — 001	13	INDUCTOR- 100uh 10%	L1	1		
120915 — 003	14	HEADER, RIGHT ANGLE	J8	1		

HISTORICAL RECORD
DO NOT DESTROY

OBSOLETE - SUPERSEDED BY 207049-001 PER ECO 12461 9-1-82 Sue

PREPARED BY	Sue Redmond	DATE 2-9-82									
CHECKED BY		2-9-82	04	12461	8-2-82						
DESIGN ENGINEER		2-9-82	03	12243	6-10-82						
			02	12179	4-27-82						
			01	Pil Rel							
			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE			

DWG REL NO. 820294 DATE 2 10 82 (M M D D Y Y)

NEXT ASSEMBLY 207358,207359

MODEL NO. P/0420-30/90

FORM 700 (R 09/80)

PAGE 1 OF 3

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7011 MP — 207017 — 001 REV 04

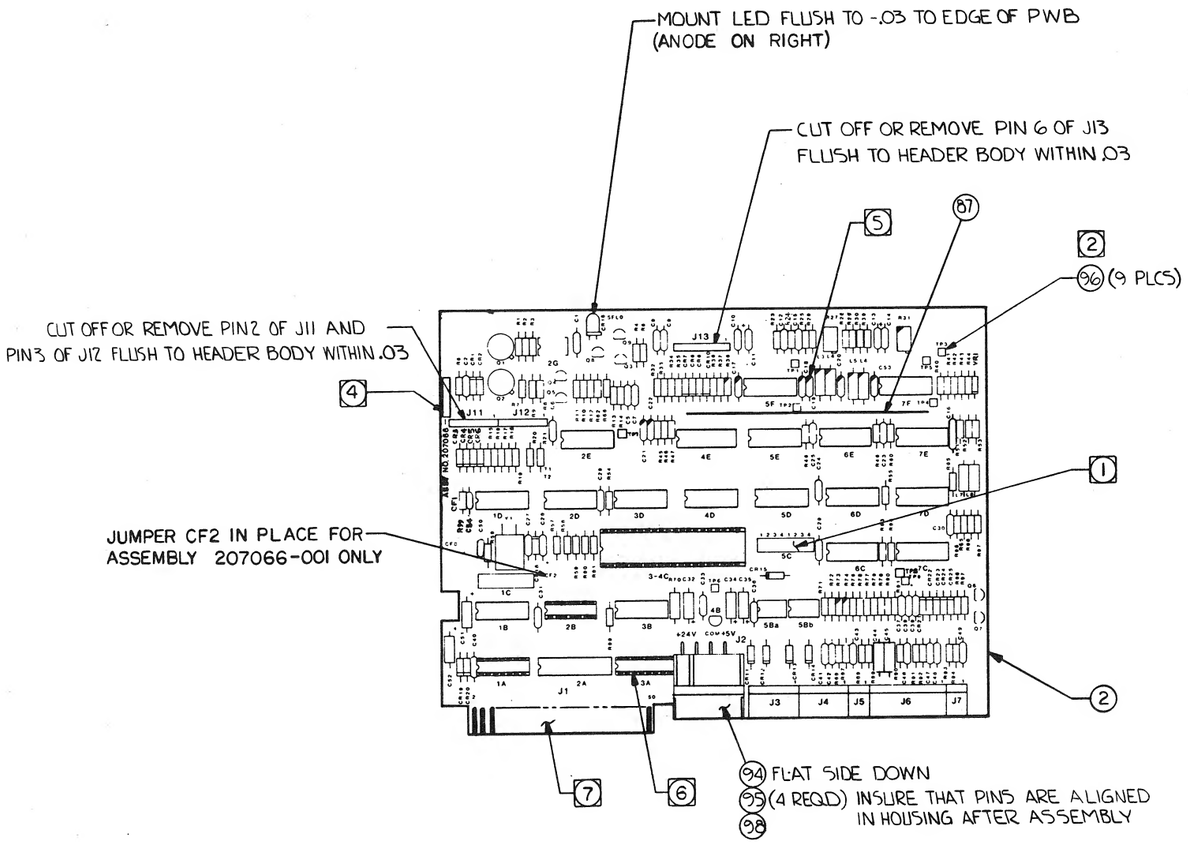
ASSEMBLY PARTS NUMBER

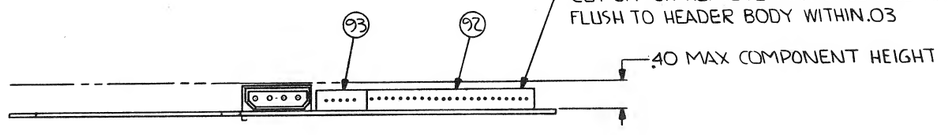
	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP	100171 — 002	15	TY-RAP 1/16-1⅛	C3,L1	2		
MP	164021 — 926	16	WIRE, HOOKUP 26 AWG	JUMPERS	7	06	
MP	207018 — 001	17	ASSY, CABLE, MOTOR DRIVER PWB		1		
MP	150107 — 001	18	TAPE, DOUBLE COATED POLYURETHANE		1	06	
MP	207017 — 100	19	ASSY, DWG		0		
MP	207015 — 001	20	PRINTED MASTER		0		
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						
MP	—						

FORM 7958 (R 09/80)

PAGE 2 OF 3

REVISIONS				207066-100 B
REV.	DESCRIPTION	CHK.	DATE	APPROVED
01	PILOT REL PER ERO 820372 &	KAM	—	—
02	ECO 12436/A JAL	KAM	[illegible]	[illegible]
A	PROD. REL ERO 820421/A	[illegible]	[illegible]	[illegible]
B	ECO 12642	[illegible]	[illegible]	[illegible]





7. MASK CONNECTOR FINGERS PRIOR TO FLOW SOLDERING
3. INSTALL COMPONENTS 1A, 3A, 2B, 3C – 4C IN SOCKETS AFTER FLOW SOLDERING AND CLEANING
2. COMPONENTS MARKED WITH TRIANGLE IN CORNER HAVE UNIQUE VALUES FOR EACH ASSEMBLY VERSION
4. MARK APPROPRIATE DASH NO. AND REVISION LETTER WHERE SHOWN USING .12 CHARACTERS PER CIPHER DATA SPEC 100037-001
3. REFERENCE SCHEMATIC DIAGRAM 207066-200
2. PRESS TEST POINT PIN INTO PWB PRIOR TO FLOW SOLDERING
1. INSTALL ITEM 97, JUMPER CLIPS ON PIN SETS 1 OF HEADER 5C

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED			
1. TOLERANCES XX± ANGULAR .XXX± ±	DRAWN	D. WILSON	3-5-82
2. BREAK ALL SHARP EDGES APPROX .010	CHECK	Tom Mathews	6/7/82
3. MACH. SURFACES ✓	APPR.	[illegible]	6/7/82
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC:R	MODEL No	0420-30/90	
	NEXT ASSY		

cipher data products, inc.

THIS DRAWING CONTAINS INFORMATION OF CIPHER DATA PRODUCTS INC. WHOLE OR IN PART, BE DISCLOSED, CLOSED OR USED FOR MANUFACTURE IN ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.

ASSEMBLY - PWB. MAIN BOARD

CODE	QTY REQ'D.	REV.
[illegible]	1	B

SCALE	SIZE	
1:1	D	207066-100

DO NOT SCALE THIS DRAWING | CODE IDENT 52465 | SHEET 1 OF 1

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - MAIN - 30 IPS | DSC: R | DOC CODE: Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 200	1	SCHEMATIC		0		
207065 — 001	2	PROCESS BOARD		1		
207030 — 001	3	ASSY, PROM 8 BIT MICROCOMPUTER	3-4C	1		
123029 — 001	4	I.C. 74LS00	6E	1		
123030 — 001	5	I.C. 74LS02	4D	1		
123031 — 001	6	I.C. 74LS04	1B, 3B, 1D, 5D	4		
123123 — 001	7	I.C. 74LS09	2D	1		
123036 — 001	8	I.C. 74LS74	3D, 6D, 5E	3		
123038 — 001	9	I.C. 74LS86	7C	1		
123234 — 001	10	I.C. 74S240	2A	1		
101139 — 001	11	I.C. 75451	2G	1		
101031 — 001	12	I.C. 75452	5Ba, 5Bb	2		
100331 — 001	13	I.C. 7406	7D	1		
100234 — 001	14	I.C. 9602	4E	1		

PREPARED BY: Sue Redmond — DATE: 3-5-82
CHECKED BY: Tom Mathews — 3/12/82
DESIGN ENGINEER:

REV	ECO	DATE/SIGNATURE
A	PROD.REL 820421/A from 12INVE 2	
04	12521	8/6/82
03	12436	8/31/82
02	12263	7/7/82
01	ALREL	3/5/82

REV	ECO	DATE/SIGNATURE
F	12771	4/4/83
E	12728	3/6/83
D	12642	2/3/83
C	12636	1/7/83
B	12631	12/6/82

DWG REL NO.: 820318 — DATE: 03 12 82 (M M D D Y Y)
NEXT ASSEMBLY: 207359
MODEL NO.: 0420-30

FORM 795 (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
123239 — 001	15	I.C. LM319	7E	1		
125011 — 001	16	I.C. LM339	6C	1		
125017 — 015	17	I.C. MA78L15	4B	1		
101032 — 001	18	I.C. NE592	5F, 7F	2		
146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B, 1A	2		
146014 — 016	20	SOCKET, DIP - 16 CONTACTS	3A	1		
146014 — 040	21	SOCKET, DIP - 40 CONTACTS	3-4C	1		
120909 — 003	22	HEADER, PROGRAM - DIP	2B	1		
151032 — 001	23	TRANSISTOR PNP Q2T2905	2E	1		
151030 — 001	24	TRANSISTOR NPN 2N3904	Q3-7	5		
151033 — 001	25	TRANSISTOR NPN MM3007	Q1,2	2		
107029 — 001	26	DIODE 1N4001	CR15	1		
107201 — 001	27	DIODE 1N4150	CR1-14, CR18-25	22		
107005 — 001	28	LED, INDICATOR MV5054-2	CR16	1		
106500 — 114	29	CRYSTAL - 3.579545 MHz	Y1	1		
101156 — 100	30	RESISTOR, ¼w ±5% 10	R23,24	2		
101156 — 330	31	RESISTOR, ¼w ±5% 33	R48	1		
100155 — 164	32	RESISTOR, ¼w ±5% 49.9	R4	1		
101156 — 121	33	RESISTOR, ¼w ±5% 120	R2,3	2		
101156 — 161	34	RESISTOR, ¼w ±5% 160	R90	1		
101156 — 221	35	RESISTOR, ¼w ±5% 220	R54	1		

FORM 795B (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
101156 — 471	36	RESISTOR, ¼w ±5% 470	R56,99	2		
101156 — 511	37	RESISTOR, ¼w ±5% 510	R34,35,49,50,51	5		
101156 — 681	38	RESISTOR, ¼w ±5% 680	R7,10,58,61	4		
101156 — 102	39	RESISTOR, ¼w ±5% 1K	R13,16,18,38,41,42, 47,55,87,89	10		
101156 — 122	40	RESISTOR, ¼w ±5% 1.2K	R80	1		
101156 — 152	41	RESISTOR, ¼w ±5% 1.5K	R69	1		
101156 — 272	42	RESISTOR, ¼w ±5% 2.7K	R97	1		
101156 — 332	43	RESISTOR, ¼w ±5% 3.3K	R73,74	2		
101156 — 392	44	RESISTOR, ¼w ±5% 3.9K	R98	1		
101156 — 472	45	RESISTOR, ¼w ±5% 4.7K	R57,59,60,79,81	5		
101156 — 682	46	RESISTOR, ¼w ±5% 6.8K	R14,15,17,19,20	5		
101156 — 103	47	RESISTOR, ¼w ±5% 10K	R64,65,67,71,75,76,78, 86,88,92,93,96	12		
101156 — 203	48	RESISTOR, ¼w ±5% 20K	R43	1		
101156 — 303	49	RESISTOR, ¼w ±5% 30K	R46	1		
101156 — 333	50	RESISTOR, ¼w ±5% 33K	R28,30	2		
101156 — 473	51	RESISTOR, ¼w ±5% 47K	R91,94	2		
101156 — 104	52	RESISTOR, ¼w ±5% 100K	R63,66,72,77	4		
100155 — 181	53	RESISTOR, ¼w ±1% 75	R1	1		
100155 — 232	54	RESISTOR, ¼w ±1% 255	R5	1		
100155 — 254	55	RESISTOR, ¼w ±1% 432	R8	1		
100155 — 289	56	RESISTOR, ¼w ±1% 1K	R29,39	2		

FORM 795B (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
100155 — 347	57	RESISTOR, ¼w ±1% 4.02K	R40,44	2		
100155 — 351	58	RESISTOR, ¼w ±1% 4.42K	R32,33	2		
100155 — 385	59	RESISTOR, ¼w ±1% 10K	R25,26,36,37,52	5		
100155 — 415	60	RESISTOR, ¼w ±1% 20.5K	R53,95	2		
100064 — 620	61	RESISTOR, ½w ±5% 62	R70	1		
142027 — 001	62	TERMINATOR - 14 PIN 180/390 OHM	1A	1		
142032 — 002	63	TERMINATOR - 16 PIN 180/390 OHM	3A	1		
138002 — 104	64	POTENTIOMETER ½w 100K	R27	1		
138002 — 202	65	POTENTIOMETER ½w 2K	R31	1		
102768 — 225	66	CAP., TANT. 10v ±20% 2.2uf	C28,38	2		
102871 — 225	67	CAP., TANT. 20v ±20% 2.2uf	C34	1		
102769 — 475	68	CAP., TANT. 35v ±20% 4.7uf	C32	1		
102870 — 685	69	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
102768 — 226	70	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
102667 — 472	71	CAP., CER.100v ±10% .0047uf	C37, 54	2		
102667 — 102	72	CAP., CER.100v ±10% .001uf	C43,46-49	5		
102665 — 104	73	CAP., CER. 50v -20+80% .1 uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36, C39-42	23		
—						
102667 — 104	74	CAP., CER.100v ±10% .1uf	C44,45	2		
102673 —479	75	CAP., CER.100v ± 10% 4.7pf	C50	1		
102669 —200	76	CAP., CER. 100v ±5% 20pf	C2	1		

FORM 795B (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
102669 — 330	77	CAP., CER.100v ±5% 33pf	C16	1		
102669 — 620	78	CAP., CER.100v ±5% 62pf	C53	1		
102669 — 101	79	CAP., CER.100v ±5% 100pf	C22	1		
102669 — 131	80	CAP., CER.100v ±5% 130pf	C21	1		
102669 — 301	81	CAP., CER.100v ±5% 300pf	C20	1		
102669 — 122	82	CAP., CER.100v ±5% 1200pf	C18,19	2		
102669 — 302	83	CAP., CER.100v ±5% 3000pf	C17	1		
122502 — 001	84	INDUCTOR, 10uh ±5% 290ma	L7,8	2		
122502 — 010	85	INDUCTOR, 820uh ±5% 77ma	L3,4	2		
122502 — 009	86	INDUCTOR, 360uh ±5% 108ma	L5,6	2		
102002 — 001	87	BUS BAR - VERTICAL		1		
100143 — 002	88	PAD, TRANSISTOR TO-5	Use with Q1, Q2	2		
120905 — 011	89	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
120916 — 001	90	HEADER, RIGHT ANGLE	J13	1		
120916 — 002	91	HEADER, RIGHT ANGLE	J11,12	1		
120915 — 024	92	HEADER, RIGHT ANGLE	J4-7	1		
120915 — 007	93	HEADER, RIGHT ANGLE	J3	1		
105084 — 001	94	CONNECTOR-HOUSING, 4 POS.	J2	1		
106019 — 001	95	CONTACT-PIN	J2	4		
100360 — 004	96	PIN, WIRE WRAP .025 SQ.	TP1-9, CF-0	11		
104903 — 001	97	CLIP, JUMPER .025 SQ. POST	5C	2		

FORM 795B (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 001 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
100171 — 001	98	TY-RAP 1/16-1½	J2	1		
1010581 — 024	99	DIODE, ZENER 1N5225B	VR1	1		
164021 — 926	100	WIRE, HOOKUP 26 AWG	CF2,		2 06	
207066 — 100	101	ASSEMBLY DRAWING		0		
207064 — 001	102	PRINTED MASTER		0		
100377 — 002	113	PIN		2		
900908 — 001	114	TEST PROCEDURE	SELECT R45	0		
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FORM 795B (R 08/80)

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, PWB - MAIN - 90 IPS | DSC: R | DOC CODE: Q120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 200	1	SCHEMATIC		0		
207065 — 001	2	PROCESS BOARD		1		
207030 — 001	3	ASSY, PROM - 8 BIT MICROCOMPUTER	3-4C	1		
123029 — 001	4	I.C. 74LS00	6E	1		
123030 — 001	5	I.C. 74LS02	4D	1		
123031 — 001	6	I.C. 74LS04	1B,3B,1D,5D	4		
123123 — 001	7	I.C. 74LS09	2D	1		
123036 — 001	8	I.C. 74LS74	3D,6D,5E	3		
123038 — 001	9	I.C. 74LS86	7C	1		
123234 — 001	10	I.C. 74S240	2A	1		
101139 — 001	11	I.C. 75451	2G	1		
101031 — 001	12	I.C. 75452	5Ba, 5Bb	2		
100331 — 001	13	I.C. 7406	7D	1		
100234 — 001	14	I.C. 9602	4E	1		

PREPARED BY: Sue Redmond | DATE: 3-5-82
CHECKED BY: Tom Mahlman | 3/12/82
DESIGN ENGINEER:

REV	ECO	DATE / SIGNATURE
A	PROD. RELEASE 12721/A	
04	12521	10-7-82
03	12436/A	8/31/82
02	12263	7/15/82
01	PIL.REL	3/15/82

REV	ECO	DATE / SIGNATURE
F	12771/A	3/2/83
E	12728	2/8/83
D	12642	2/8/83
C	12636	2/7/83
B	12631	2/4/83

DWG REL NO.: 820318 | DATE: 03 17 82 (M M D D Y Y)
NEXT ASSEMBLY: 207358
MODEL NO.: 0420-90

FORM 708 (R 09/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 123239 — 001	15	I.C. LM319	7E	1		
MP 125011 — 001	16	I.C. LM339	6C	1		
MP 125017 — 015	17	I.C. MA78L15	4B	1		
MP 101032 — 001	18	I.C. NE592	5F,7F	2		
MP 146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B, 1A	2		
MP 146014 — 016	20	SOCKET, DIP - 16 CONTACTS	3A	1		
MP 146014 — 040	21	SOCKET, DIP - 40 CONTACTS	3-4C	1		
MP 120909 — 003	22	HEADER, PROGRAM - DIP	2B	1		
MP 151032 — 001	23	TRANSISTOR, PNP Q2T2905	2E	1		
MP 151030 — 001	24	TRANSISTOR, NPN 2N3904	Q3-7	5		
MP 151033 — 001	25	TRANSISTOR, NPN MM3007	Q1,2	2		
MP 107029 — 001	26	DIODE 1N4001	CR15	1		
MP 107201 — 001	27	DIODE 1N4150	CR1-14,CR18-25	22		
MP 107005 — 001	28	LED, INDICATOR MV5054-2	CR16	1		
MP 106500 — 114	29	CRYSTAL - 3.579545 MHz	Y1	1		
MP 101156 — 100	30	RESISTOR, ¼w ±5% 10	R23,24	2		
MP 101156 — 330	31	RESISTOR, ¼w ±5% 33	R48	1		
MP 100155 — 164	32	RESISTOR, ¼w ±5% 49.9	R4	1		
MP 101156 — 121	33	RESISTOR, ¼w ±5% 120	R2,3	2		
MP 101156 — 161	34	RESISTOR, ¼w ±5% 160	R90	1		
MP 101156 — 221	35	RESISTOR, ¼w ±5% 220	R54	1		

FORM 708B (R 09/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 101156 — 471	36	RESISTOR, ¼w ±5% 470	R56, 99	2		
MP 101156 — 511	37	RESISTOR, ¼w ±5% 510	R34,35,49,50,51	5		
MP 101156 — 681	38	RESISTOR, ¼w ±5% 680	R7,10,58,61	4		
MP 101156 — 102	39	RESISTOR, ¼w ±5% 1K	R13,16,18,41,42,47, 55,73,74,87,89	11		
MP 101156 — 122	40	RESISTOR, ¼w ±5% 1.2K	R80	1		
MP 101156 — 152	41	RESISTOR, ¼w ±5% 1.5K	R69	1		
MP 101156 — 272	42	RESISTOR, ¼w ±5% 2.7K	R97	1		
MP 101156 — 302	43	RESISTOR, ¼w ±5% 3K	R38	1		
MP 101156 — 392	44	RESISTOR, ¼w ±5% 3.9K	R98	1		
MP 101156 — 472	45	RESISTOR, ¼w ±5% 4.7K	R57,59,60,79,81	5		
MP 101156 — 682	46	RESISTOR, ¼w ±5% 6.8K	R14,15,17,19,20	5		
MP 101156 — 103	47	RESISTOR, ¼w ±5% 10K	R64,65,67,71,75,76,78, 86,88,92,93,96	12		
MP 101156 — 203	48	RESISTOR, ¼w ±5% 20K	R43	1		
MP 101156 — 303	49	RESISTOR, ¼w ±5% 30K	R46	1		
MP 101156 — 333	50	RESISTOR, ¼w ±5% 33K	R28,30	2		
MP 101156 — 473	51	RESISTOR, ¼w ±5% 47K	R91,94	2		
MP 101156 — 104	52	RESISTOR, ¼w ±5% 100K	R63,66,72,77	4		
MP 100155 — 181	53	RESISTOR, ¼w ±1% 75	R1	1		
MP 100155 — 232	54	RESISTOR, ¼w ±1% 255	R5	1		
MP 100155 — 254	55	RESISTOR, ¼w ±1% 432	R8	1		
MP 100155 — 289	56	RESISTOR, ¼w ±1% 1K	R29,39	2		

FORM 708B (R 09/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 100155 — 347	57	RESISTOR, ¼w ±1% 4.02K	R40,44	2		
MP 100155 — 351	58	RESISTOR, ¼w ±1% 4.42K	R32,33	2		
MP 100155 — 385	59	RESISTOR, ¼w ±1% 10K	R25,26,36,37,52	5		
MP 100155 — 415	60	RESISTOR, ¼w ±1% 20.5K	R53,95	2		
MP 100064 — 620	61	RESISTOR, ¼w ±5% 62	R70	1		
MP 142027 — 001	62	TERMINATOR-14 PIN 180/390 OHM	1A	1		
MP 142032 — 002	63	TERMINATOR-16 PIN 180/390 OHM	3A	1		
MP 138002 — 104	64	POTENTIOMETER ½w, 100K	R27	1		
MP 138002 — 502	65	POTENTIOMETER ½w, 5K	R31	1		
MP 102768 — 225	66	CAP., TANT. 10v ±20% 2.2uf	C28,38	2		
MP 102871 — 225	67	CAP., TANT. 20v ±20% 2.2uf	C34	1		
MP 102769 — 475	68	CAP., TANT. 35v ±20% 4.7uf	C32	1		
MP 102870 — 685	69	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
MP 102768 — 226	70	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
MP 102667 — 472	71	CAP., CER. 100v ±10% .0047uf	C37, 54	2		
MP 102667 — 102	72	CAP., CER. 100v ±10% .001uf	C43,46-49	5		
MP 102665 — 104	73	CAP., CER. 50v -20+80% .1uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36	23		
MP —			C39-42			
MP 102667 — 104	74	CAP., CER. 100v ±10% .1uf	C44,45	2		
MP 102673 — 479	75	CAP., CER. 100v ± 10% 4.7pf	C50	1		
MP 102669 — 200	76	CAP., CER. 100v ±5% 20pf	C2,C53	2		

FORM 708B (R 09/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 102669 — 330	77	CAP., CER. 100v ±5% 33pf	C16,21,22	3		
MP 102669 — 101	81	CAP., CER. 100v ±5% 100pf	C20	1		
MP 102669 — 391	82	CAP., CER. 100v ±5% 390pf	C18,19	2		
MP 102669 — 301	83	CAP., CER. 100v ±5% 300pf	C17	1		
MP 122502 — 001	84	INDUCTOR 10uh ±5% 290ma	L7,8	2		
MP 122502 — 008	85	INDUCTOR 270uh ±5% 129ma	L3,4	2		
MP 122502 — 004	86	INDUCTOR 120uh ±5% 124ma	L5,6	2		
MP 102002 — 001	87	BUS BAR - VERTICAL		1		
MP 100143 — 002	88	PAD, TRANSISTOR TO-5	Use with Q1, Q2	2		
MP 120905 — 011	89	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
MP 120916 — 001	90	HEADER, RIGHT ANGLE	J13	1		
MP 120916 — 002	91	HEADER, RIGHT ANGLE	J11,12	1		
MP 120915 — 024	92	HEADER, RIGHT ANGLE	J4-7	1		
MP 120915 — 007	93	HEADER, RIGHT ANGLE	J3	1		
MP 105084 — 001	94	CONNECTOR-HOUSING, 4 PIN	J2	1		
MP 106019 — 001	95	CONTACT, PIN	J2	4		
MP 100360- — 004	96	PIN, WIRE WRAP .025 SQ.	TP1-9, CF-0	11		
MP 104903 — 001	97	CLIP, JUMPER .025 SQ. POST	5C	2		
MP 100171 — 001	98	TY-RAP 1/16-1¼	J2	1		
MP 101058 — 024	99	DIODE ZENER 1N5225B	VR1	1		
MP —	100					

FORM 708B (R 09/80)

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 002 | REV F
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 207066 — 100	101	ASSEMBLY DRAWING		0		
MP 207064 — 001	102	PRINTED MASTER		0		
MP 100377 — 002	113	PIN		2		
MP 900908 — 001	114	TEST PROCEDURE	SELECT R45	0		
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
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MP —						

FORM 708B (R 09/80)

cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, PWB - MAIN - 30 IPS DSC:R | DOC CODE: 0120

S 7 0 1 1 | 207066 — 003 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 200	1	SCHEMATIC		0		
207065 — 001	2	PROCESS BOARD		1		
940222 — 001	3	ASSY, 8 BIT MICROCOMPUTER (MASKED ROM VERSION)	3-4C (207030 — 002 Alternate)	1		
123029 — 001	4	I.C. 74LS00	6E	1		
123030 — 001	5	I.C. 74LS02	4D	1		
123031 — 001	6	I.C. 74LS04	1B, 3B, 1D, 5D	4		
123123 — 001	7	I.C. 74LS09	2D	1		
123036 — 001	8	I.C. 74LS74	3D, 6D, 5E	3		
123038 — 001	9	I.C. 74LS86	7C	1		
123234 — 001	10	I.C. 74S240	2A	1		
101139 — 001	11	I.C. 75451	2G	1		
101031 — 001	12	I.C. 75452	5Ba, 5Bb	2		
100331 — 001	13	I.C. 7406	7D	1		
100234 — 001	14	I.C. 9602	4E	1		

		DATE
PREPARED BY	Sue Redmond	7-9-82
CHECKED BY	Ken Mohanni	7/14/82
DESIGN ENGINEER	R. Parker	11/11/82

REV	ECO	DATE / SIGNATURE
E	12728	3/6/83 R. Parker
D	12642	2/8/83 R. Parker
C	12636	2/7/83 R. Parker
B	12631	2/4/83 R. Parker
A	PROD REL	

REV	ECO	DATE / SIGNATURE
G	13044	11/23/83 R. Parker
F	12771/A	8/1/83 R. Parker

DWG REL NO. 820420 | DATE 9 15 82 (M M D D Y Y)
NEXT ASSEMBLY 207359
MODEL NO. 0420-30

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
123239 — 001	15	I.C. LM319	7E	1		
125011 — 001	16	I.C. LM339	6C	1		
125017 — 015	17	I.C. MA78L15	4B	1		
101032 — 001	18	I.C. NE592	5F, 7F	2		
146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B, 1A	2		
146014 — 016	20	SOCKET, DIP - 16 CONTACTS	3A	1		
146014 — 040	21	SOCKET, DIP - 40 CONTACTS	3-4C	1		
120909 — 003	22	HEADER, PROGRAM - DIP	2B	1		
151032 — 001	23	TRANSISTOR PNP Q2T2905	2E	1		
151030 — 001	24	TRANSISTOR NPN 2N3904	Q3-7	5		
151033 — 001	25	TRANSISTOR NPN MN3007	Q1,2	2		
107029 — 001	26	DIODE 1N4001	CR15	1		
107201 — 001	27	DIODE 1N4150	CR1-14, CR18-25	22		
107005 — 001	28	LED, INDICATOR MV5054-2	CR16	1		
106500 — 114	29	CRYSTAL - 3.579545 MHz	Y1	1		
101156 — 100	30	RESISTOR, ¼W ±5% 10	R23,24	2		
101156 — 330	31	RESISTOR, ¼W ±5% 33	R48	1		
100155 — 164	32	RESISTOR, ¼W ±5% 49.9	R4	1		
101156 — 121	33	RESISTOR, ¼W ±5% 120	R2,3	2		

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
101156 — 161	34	RESISTOR, ¼W ±5% 160	R90	1		
101156 — 221	35	RESISTOR, ¼W ±5% 220	R54	1		
101156 — 471	36	RESISTOR, ¼W ±5% 470	R56,99	2		
101156 — 511	37	RESISTOR, ¼W ±5% 510	R34,35,49,50,51	5		
101156 — 681	38	RESISTOR, ¼W ±5% 680	R7,10,58,61	4		
101156 — 102	39	RESISTOR, ¼W ±5% 1K	R13,16,18,38,41,42, 47,55,87,89	10		
101156 — 122	40	RESISTOR, ¼W ±5% 1.2K	R80	1		
101156 — 152	41	RESISTOR, ¼W ±5% 1.5K	R69	1		
101156 — 272	42	RESISTOR, ¼W ±5% 2.7K	R97	1		
101156 — 332	43	RESISTOR, ¼W ±5% 3.3K	R73,74	2		
101156 — 392	44	RESISTOR, ¼W ±5% 3.9K	R98	1		
101156 — 472	45	RESISTOR, ¼W ±5% 4.7K	R57,59,60,79,81	5		
101156 — 682	46	RESISTOR, ¼W ±5% 6.8K	R14,15,17,19,20	5		
101156 — 103	47	RESISTOR, ¼W ±5% 10K	R64,65,67,71,75,76,78, 86,88,92,93,96	12		
101156 — 203	48	RESISTOR, ¼W ±5% 20K	R43	1		
101156 — 303	49	RESISTOR, ¼W ±5% 30K	R46	1		
101156 — 333	50	RESISTOR, ¼W ±5% 33K	R28,30	2		
101156 — 473	51	RESISTOR, ¼W ±5% 47K	R91,94	2		
101156 — 104	52	RESISTOR, ¼W ±5% 100K	R63,66,72,77	4		

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
100155 — 181	53	RESISTOR, ¼W ±1% 75	R1	1		
100155 — 232	54	RESISTOR, ¼W ±1% 255	R5	1		
100155 — 254	55	RESISTOR, ¼W ±1% 432	R8	1		
100155 — 289	56	RESISTOR, ¼W ±1% 1K	R29,39	2		
100155 — 347	57	RESISTOR, ¼W ±1% 4.02K	R40,44	2		
100155 — 351	58	RESISTOR, ¼W ±1% 4.42K	R32,33	2		
100155 — 385	59	RESISTOR, ¼W ±1% 10K	R25,26,36,37,52	5		
100155 — 415	60	RESISTOR, ¼W ±1% 20.5K	R53,95	2		
100064 — 620	61	RESISTOR, ¼W ±5% 62	R70	1		
142027 — 001	62	TERMINATOR - 14 PIN 180/390 OHM	1A	1		
142032 — 002	63	TERMINATOR - 16 PIN 180/390 OHM	3A	1		
138002 — 104	64	POTENTIOMETER ½W 100K	R27	1		
138002 — 202	65	POTENTIOMETER ½W 2K	R31	1		
102768 — 225	66	CAP., TANT. 10v ±20% 2.2uf	C28,38	2		
102871 — 225	67	CAP., TANT. 20v ±20% 2.2uf	C34	1		
102769 — 475	68	CAP., TANT. 35v ±20% 4.7uf	C32	1		
102870 — 685	69	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
102768 — 226	70	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
102667 — 472	71	CAP., CER. 100v ±10% .0047uf	C37, 54	2		

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
102667 — 102	72	CAP., CER. 100v ±10% .001uf	C43,46-49	5		
102665 — 104	73	CAP., CER. 50v -20+80% .1uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36,39-42	23		
102667 — 104	74	CAP., CER. 100v ±10% .1uf	C44,45	2		
102673 — 479	75	CAP., CER. 100v ±10% 4.7pf	C50	1		
102669 — 200	76	CAP., CER. 100v ±5% 20pf	C2	1		
102669 — 330	77	CAP., CER. 100v ±5% 33pf	C16	1		
102669 — 620	78	CAP., CER. 100v ±5% 62pf	C53	1		
102669 — 101	79	CAP., CER. 100v ±5% 100pf	C22	1		
102669 — 131	80	CAP., CER. 100v ±5% 130pf	C21	1		
102669 — 301	81	CAP., CER. 100v ±5% 300pf	C20	1		
102669 — 122	82	CAP., CER. 100v ±5% 1200pf	C18,19	2		
102669 — 302	83	CAP., CER. 100v ±5% 3000pf	C17	1		
122502 — 001	84	INDUCTOR, 10uh ±5% 290ma	L7,8	2		
122502 — 010	85	INDUCTOR, 820uh ±5% 77ma	L3,4	2		
122502 — 009	86	INDUCTOR, 360uh ±5% 108ma	L5,6	2		
102002 — 001	87	BUS BAR - VERTICAL		1		
100143 — 002	88	PAD, TRANSISTOR TO-5	Use with Q1, Q2	2		
120905 — 011	89	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
120916 — 001	90	HEADER, RIGHT ANGLE	J13	1		

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
120916 — 002	91	HEADER, RIGHT ANGLE	J11,12	1		
120915 — 024	92	HEADER, RIGHT ANGLE	J4-7	1		
120915 — 007	93	HEADER, RIGHT ANGLE	J3	1		
105084 — 001	94	CONNECTOR-HOUSING, 4 POS.	J2	1		
106019 — 001	95	CONTACT-PIN	J2	4		
100360 — 004	96	PIN, WIRE WRAP .025 SQ.	TP1-9, CF-8	11		
104903 — 001	97	CLIP, JUMPER .025 SQ. POST	5C	2		
100171 — 001	98	TY-RAP 1/16-1¼	J2	1		
101058 — 024	99	DIODE, ZENER 1N5225B	VR1	1		
164021 — 926	100	WIRE, HOOKUP 26 AWG	CF2	2 06		
207066 — 100	101	ASSEMBLY DRAWING		0		
207064 — 001	102	PRINTED MASTER		0		
100377 — 002	113	PIN		2		
900908 — 001	114	TEST PROCEDURE	SELECT R45	0		
—						
—						
—						
—						
—						

cipher
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, PWB - MAIN - 90 IPS DSC: R | DOC CODE: Q120

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 200	1	SCHEMATIC		0		
207065 — 001	2	PROCESS BOARD		1		
940222 — 001	3	ASSY, 8 BIT MICROCOMPUTER (MASKED ROM VERSION)	3-4C (207030 —002 Alternate)	1		
123029 — 001	4	I.C. 74LS00	6E	1		
123030 — 001	5	I.C. 74LS02	4D	1		
123031 — 001	6	I.C. 74LS04	1B,3B,1D,5D	4		
123123 — 001	7	I.C. 74LS09	2D	1		
123036 — 001	8	I.C. 74LS74	3D,6D,5E	3		
123038 — 001	9	I.C. 74LS86	7C	1		
123234 — 001	10	I.C. 74S240	2A	1		
101139 — 001	11	I.C. 75451	2G	1		
101031 — 001	12	I.C. 75452	5Ba, 5Bb	2		
100331 — 001	13	I.C. 7406	7D	1		
100234 — 001	14	I.C. 9602	4E	1		

		DATE
PREPARED BY	Sue Redmond	7-13-82
CHECKED BY	Tom Nakhaei	1/4/83
DESIGN ENGINEER	D.Hostetler	1/11/83

REV	ECO	DATE / SIGNATURE
E	12728	K. Parker 3/4/83
D	12642	K. Parker 2/8/83
C	12630	K. Parker 2/1/83
B	12631	K. Parker 1/12/83
A	REL'D. REL: 1/4/83	DRAWN

REV	ECO	DATE / SIGNATURE
G	13044	K. Parker 11/2/83
F	12771/A	K. Parker 8/12/83

DWG REL NO. 820430 | DATE 1 04 83 (M M D D Y Y)
NEXT ASSEMBLY 207358
MODEL NO. 0420-90

FORM 795 (R 03/82)

cipher
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 123239 — 001	15	I.C. LM319	7E	1		
MP 125011 — 001	16	I.C. LM339	6C	1		
MP 125017 — 015	17	I.C. MA78L15	4B	1		
MP 101032 — 001	18	I.C. NE592	5F,7F	2		
MP 146014 — 014	19	SOCKET, DIP - 14 CONTACTS	2B,1A	2		
MP 146014 — 016	20	SOCKET, DIP - 16 CONTACTS	3A	1		
MP 146014 — 040	21	SOCKET, DIP 40 CONTACTS	3-4C	1		
MP 120909 — 003	22	HEADER, PROGRAM - DIP	2B	1		
MP 151032 — 001	23	TRANSISTOR, PNP Q2T2905	2E	1		
MP 151030 — 001	24	TRANSISTOR, NPN 2N3904	Q3-7	5		
MP 151033 — 001	25	TRANSISTOR, NPN MM3007	Q1,2	2		
MP 107029 — 001	26	DIODE 1N4001	CR15	1		
MP 107201 — 001	27	DIODE 1N4150	CR1-14, CR18-25	22		
MP 107005 — 001	28	LED, INDICATOR MV5054-2	CR16	1		
MP 106500 — 114	29	CRYSTAL - 3.579545 MHz	Y1	1		
MP 101156 — 100	30	RESISTOR, 1/4W ±5% 10	R23,24	2		
MP 101156 — 330	31	RESISTOR, 1/4W ±5% 33	R48	1		
MP 100155 — 164	32	RESISTOR, 1/4W ±5% 49.9	R4	1		
MP 101156 — 121	33	RESISTOR, 1/4W ±5% 120	R2,3	2		

FORM 795 (R 03/82) (Continuation)

cipher
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 101156 — 161	34	RESISTOR, 1/4W ±5% 160	R90	1		
MP 101156 — 221	35	RESISTOR, 1/4W ±5% 220	R54	1		
MP 101156 — 471	36	RESISTOR, 1/4W ±5% 470	R56,99	2		
MP 101156 — 511	37	RESISTOR, 1/4W ±5% 510	R34,35,49,50,51	5		
MP 101156 — 681	38	RESISTOR, 1/4W ±5% 680	R7,10,58,61	4		
MP 101156 — 102	39	RESISTOR, 1/4W ±5% 1K	R13,16,18,41,42,47, R55,73,74,87,89	11		
MP 101156 — 122	40	RESISTOR, 1/4W ±5% 1.2K	R80	1		
MP 101156 — 152	41	RESISTOR, 1/4W ±5% 1.5K	R69	1		
MP 101156 — 272	42	RESISTOR, 1/4W ±5% 2.7K	R97	1		
MP 101156 — 302	43	RESISTOR, 1/4W ±5% 3K	R38	1		
MP 101156 — 392	44	RESISTOR, 1/4W ±5% 3.9K	R98	1		
MP 101156 — 472	45	RESISTOR, 1/4W ±5% 4.7K	R57,59,60,79,81	5		
MP 101156 — 682	46	RESISTOR, 1/4W ±5% 6.8K	R14,15,17,19,20	5		
MP 101156 — 103	47	RESISTOR, 1/4W ±5% 10K	R64,65,67,71,75,76,78, R86,88,92,93,96	12		
MP 101156 — 203	48	RESISTOR, 1/4W ±5% 20K	R43	1		
MP 101156 — 303	49	RESISTOR, 1/4W ±5% 30K	R46	1		
MP 101156 — 333	50	RESISTOR, 1/4W ±5% 33K	R28,30	2		
MP 101156 — 473	51	RESISTOR, 1/4W ±5% 47K	R91,94	2		
MP 101156 — 104	52	RESITOR, 1/4W ±5% 100K	R63,66,72,77	4		

FORM 795 (R 03/82) (Continuation)

cipher
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 100155 — 181	53	RESISTOR, 1/4W ±1% 75	R1	1		
MP 100155 — 232	54	RESISTOR, 1/4W ±1% 255	R5	1		
MP 100155 — 254	55	RESISTOR, 1/4W ±1% 432	R8	1		
MP 100155 — 289	56	RESISTOR, 1/4W ±1% 1K	R29,39	2		
MP 100155 — 347	57	RESISTOR, 1/4W ±1% 4.02K	R40,44	2		
MP 100155 — 351	58	RESISTOR, 1/4W ±1% 4.42K	R32,33	2		
MP 100155 — 385	59	RESISTOR, 1/4W ±1% 10K	R25,26,36,37,52	5		
MP 100155 — 415	60	RESISTOR, 1/4W ±1% 20.5K	R53,95	2		
MP 100064 — 620	61	RESISTOR, 1/2W ±5% 62	R70	1		
MP 142027 — 001	62	TERMINATOR - 14 PIN 180/390 OHM	1A	1		
MP 142032 — 002	63	TERMINATOR - 16 PIN 180/390 OHM	3A	1		
MP 138002 — 104	64	POTENTIOMETER 1/2W, 100K	R27	1		
MP 138002 — 502	65	POTENTIOMETER 1/2W, 5K	R31	1		
MP 102768 — 225	66	CAP., TANT. 10v ±20% 2.2uf	C28,C38	2		
MP 102871 — 225	67	CAP., TANT. 20v ±20% 2.2uf	C34	1		
MP 102769 — 475	68	CAP., TANT. 35v ±20% 4.7uf	C32	1		
MP 102870 — 685	69	CAP., TANT. 4v ±20% 6.8uf	C11,13	2		
MP 102768 — 226	70	CAP., TANT. 10v ±20% 22uf	C35,51,52	3		
MP 102667 — 472	71	CAP., CER. 100v ±10% .0047uf	C37,54	2		

FORM 795 (R 03/82) (Continuation)

cipher
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 102667 — 102	72	CAP., CER. 100v ±10% .001uf	C43,46-49	5		
MP 102665 — 104	73	CAP., CER. 50v -20+80% .1uf	C1,5,7-10,12,14,15, 23-27,29-31,33,36,39-42 23			
MP 102667 — 104	74	CAP., CER. 100v ±10% .1uf	C44,45	2		
MP 102673 — 479	75	CAP., CER. 100v ±10% 4.7pf	C50	1		
MP 102669 — 200	76	CAP., CER. 100v ±5% 20pf	C2,C53	2		
MP 102669 — 330	77	CAP., CER. 100v ±5% 33pf	C16,21,22	3		
MP 102669 — 101	81	CAP., CER. 100v ±5% 100pf	C20	1		
MP 102669 — 391	82	CAP., CER. 100v ±5% 390pf	C18,19	2		
MP 102669 — 301	83	CAP., CER. 100v ±5% 300pf	C17	1		
MP 122502 — 001	84	INDUCTOR 10uh ±5% 290ma	L7,8	2		
MP 122502 — 008	85	INDUCTOR 270uh ±5% 129ma	L3,4	2		
MP 122502 — 004	86	INDUCTOR 120uh ±5% 124ma	L5,6	2		
MP 102002 — 001	87	BUS BAR - VERTICAL		1		
MP 100143 — 002	88	PAD, TRANSISTOR TO-5	Use with Q1,Q2	2		
MP 120905 — 011	89	HEADER, DOUBLE ROW, STRAIGHT	5C	1		
MP 120916 — 001	90	HEADER, RIGHT ANGLE	J13	1		
MP 120916 — 002	91	HEADER, RIGHT ANGLE	J11,12	1		
MP 120915 — 024	92	HEADER, RIGHT ANGLE	J4-7	1		
MP 120915 — 007	93	HEADER, RIGHT ANGLE	J3	1		

FORM 795 (R 03/82) (Continuation)

cipher
Garden Grove Division

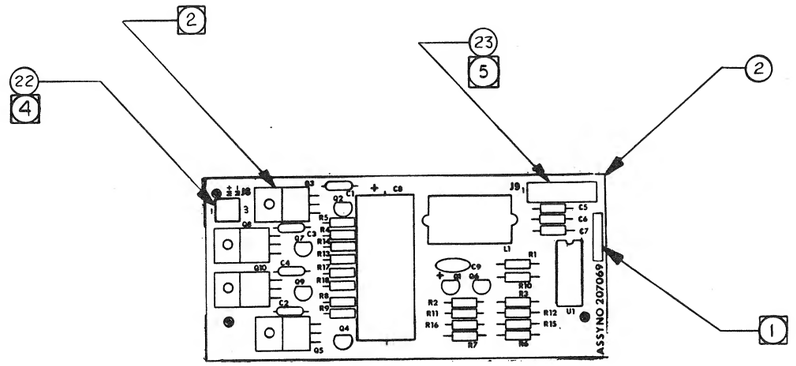
ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207066 — 004 | REV G
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 105084 — 001	94	CONNECTOR-HOUSING, 4 PIN	J2	1		
MP 106019 — 001	95	CONTACT, PIN	J2	4		
MP 100360 — 004	96	PIN, WIRE WRAP .025 SQ.	TP1-9, CF-0	11		
MP 104903 — 001	97	CLIP, JUMPER .025 SQ. POST	5C	2		
MP 100171 — 001	98	TY-RAP 1/16-1 1/4	J2	1		
MP 101058 — 024	99	DIODE, ZENER 1N5225B	VR1	1		
MP —	100					
MP 207066 — 100	101	ASSEMBLY DRAWING		0		
MP 207064 — 001	102	PRINTED MASTER		0		
MP 100377 — 002	113	PIN		2		
MP 900908 — 001	114	TEST PROCEDURE	SELECT R45	0		
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						

FORM 795 (R 03/82) (Continuation)

REVISIONS					207069-100 B
REV.	DESCRIPTION		CHK.	DATE	APPROVED
01	PILOT RELEASE PER ERO 820361	KM	KM	5-11-82	
02	ECO 12303	KM	KM	6-10-82	
03	ECO 12382	JaL	KAM	8-13-82	
04	ECO 12441	JaL	KAM	9-28-82	
A	PROD. REL ERO 820421/A		KAM	12/15/82	
B	ECO 12592		KAM	2-3-83	



OBSOLETE
REPLACED BY: 207076-100
ECO #: 12592
DATE: 2-1-83

HISTORICAL RECORD
DO NOT DESTROY

5. CUT OFF PIN 6 (KEY POSITION) WITHIN .030

4. CUT OFF PIN 1 (KEY POSITION) WITHIN .030

3. REFERENCE SCHEMATIC DRAWING 207069-200

2. APPLY .25 INCH LONG DOUBLE BACK TAPE UNDER Q3, Q5, Q8, Q10. APPLY FIRMLY TO PWB AFTER FLOW SOLDER.

1. MARK APPROPRIATE DASH NO. AND REVISION LETTER ~~WHERE~~ SHOWN USING .12 INCH HIGH CHARACTERS PER CIPHER DATA SPEC. 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX ± .XXX ± ANGULAR ±	DRAWN	DON WILSON	MAY 6-82	THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Kim Markham	5/13/82	
3. MACH. SURFACES ✓	APPR.	R.L. Shields	5/13/82	
4. ALL DIMS IN INCHES.	MATERIAL			CODE Q 120
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			QTY REQ'D. 1
DSC: R	MODEL No. QUARTERBACK			REV. B
	NEXT ASSY 207358 & 207359			

cipher data products, inc.

ASSEMBLY-PWB, MOTOR DRIVER

SCALE	SIZE		REV.
1:1	C	207069-100	B

DO NOT SCALE THIS DRAWING | CODE IDENT 52465 | SHEET 1 OF 1

FORM 393 (R. 1-78) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-2229

elpher, Garden Grove Division

HISTORICAL RECORD
DO NOT DESTROY

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, PWB-MOTOR DRIVER DSC: R DOC CODE: 0120

S 7 0 1 1 | 207069 — 001 | REV B
ASSEMBLY PART NUMBER

OBSOLETE
REPLACED BY: 207076-001
CR/O #: 12592
DATE: 2-1-83

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
—	1					
207068 — 001	2	PROCESS BOARD		1		
100336 — 001	3	I.C. 7438		1		
—	4					
151027 — 002	5	TRANSISTOR, NPN TIP120		2		
151028 — 002	6	TRANSISTOR, PNP TIP125		2		
151030 — 001	7	TRANSISTOR, NPN 2N3904		4		
151031 — 001	8	TRANSISTOR, PNP 2N3906		2		
—	9					
101156 — 101	10	RESISTOR, ¼W ± 5% 100	R5,R9,R14,R18	4		
101156 — 561	11	RESISTOR, ¼W ± 5% 560	R7,R16	2		
101156 — 392	12	RESISTOR, ¼W ± 5% 3.9K	R1,R2,R6,R10,R11,R15	6		
101156 — 682	13	RESISTOR, ¼W ± 5% 6.8K	R4,R8,R13,R17	4		
101156 — 103	14	RESISTOR, ¼W ± 5% 10K	R3,R12	2		

		DATE	REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Howard Stewart	4-6-82	04	12494	K. [illegible] 11/10/82			
CHECKED BY	[illegible]	4/6/82	03	12441	[illegible] 10/26/82			
DESIGN ENGINEER	[illegible]	5/13/82	02	12382	H. [illegible] 8-13-82	B	12592	[illegible] 2-3-83
			01	12303	[illegible] 6-10-82	/	ERO 820421	[illegible] 12/8/82
			01	PIL. REL.		A	PROD. REL.	

DWG REL NO.: 820361 DATE: 05 14 82

NEXT ASSEMBLY: 207358, 207359

MODEL NO.: QUARTERBACK

FORM 795 (R 03/82)

elpher, Garden Grove Division

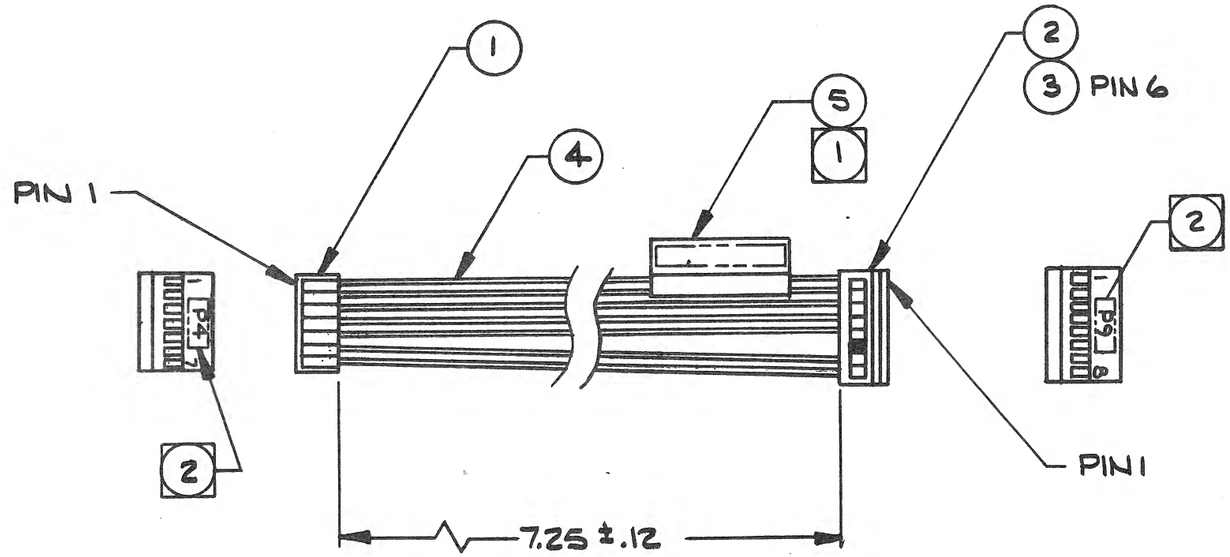
ASSEMBLY PARTS LIST
(CONTINUATION)

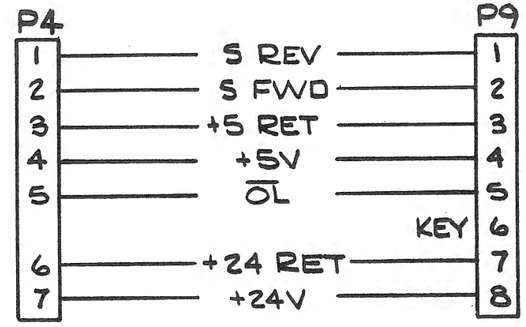
S 7 0 1 1 | 207069 — 001 | REV B
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
—	15					
102608 — 108	16	CAP, ELEC 35V-10% + 50% 1000uf	C8	1		
102665 — 104	17	CAP, CER. 50V-20 + 80% .1uf	C5,C6,C7	3		
102667 — 103	18	CAP, CER. 100V ± 10% .01uf	C1,C2,C3,C4	4		
—	19					
122522 — 001	20	INDUCTOR, HIGH CURRENT FILTER ± 10% 100uh	L1	1		
—	21					
120917 — 003	22	HEADER, STRAIGHT 3-PIN	J8	1		
120917 — 008	23	HEADER, STRAIGHT 8-PIN	J9	1		
—	24					
150107 — 001	25	TAPE, DOUBLE COATED POLYURETHANE FOAM	03,05,08,010	1		0 6
207069 — 200	26	SCHEMATIC	REF	0		
207069 — 100	27	ASSY. DWG	REF	0		
207067 — 001	28	MASTER ARTWORK	REF	0		
—	29					
—	30					
—	31					
—	32					
—	33					

FORM 795 (R 03/82) (Continuation)

REVISIONS				207070-100 A
REV.	DESCRIPTION	CHK.	DATE	APPROVED
01	PILOT REL PER ERO 820368	KAM	—	—
A	PROD. REL ERO 820421/A	KAM	12/14/82	—





PART NUMBER SEE SEPARATE M/L

(2) MARK CONNECTORS WITH APPROPRIATE REF DESIGNATION USING .12 HIGH WHITE CHARACTERS PER CDP SPEC 100013-001.

(1) MARK WITH PART NO., APPROPRIATE DASH NO. & LATEST REVISION LEVEL PER CDP SPEC 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± — ANGULAR ± — .XXX± —	DRAWN	MATTHES	5/24/82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Sam Mathews	6/1/82
3. MACH. SURFACES √	APPR.	G Perez	6/14/82
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC: R	MODEL No.	QB	
	NEXT ASSY		

cipher data products, inc.
Garden Grove Division

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ASSY, CABLE-MOTOR DRIVER PWB, 90 IPS

CODE	QTY REQ'D.
Q 115	1

SCALE	SIZE		REV.
1/1	B	207070-100	A

DO NOT SCALE THIS DRAWING | CODE IDENT | SHEET 1 OF 1

cipher

ASSEMBLY PARTS LIST

S 7 0 1 1 | 207070 — 001 | REV A

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, CABLE - MOTOR DRIVER PWB, 90 IPS — DSC:A — DOC CODE: Q115

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
105081 — 607	1	CONNECTOR HSG - 7 POS.	P4	1		
105081 — 608	2	CONNECTOR HSG - 8 POS.	P9	1		
130006 — 001	3	KEY, CONNECTOR HSG		1		
100053 - 926	4	WIRE, HOOKUP	26 AWG WHITE	56		06
133500 — 001	5	CABLE MARKER		1		
207070 — 100	6	ASSY DWG		0		
—						
—						
—						
—						
—						
—						
—						
—						

		DATE							
PREPARED BY	T. Scott	5-24-82							
CHECKED BY	Tom Markham	5/24/82	A	ECO 8204218	10/14/82				
DESIGN ENGINEER	G. Pirez	6/14/82	/	PROD. REL. PER.					
			02	12341					
			01	PILOT REL.					
			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE	

DWG REL NO.	DATE (M M D D Y Y)
820368	06 04 82

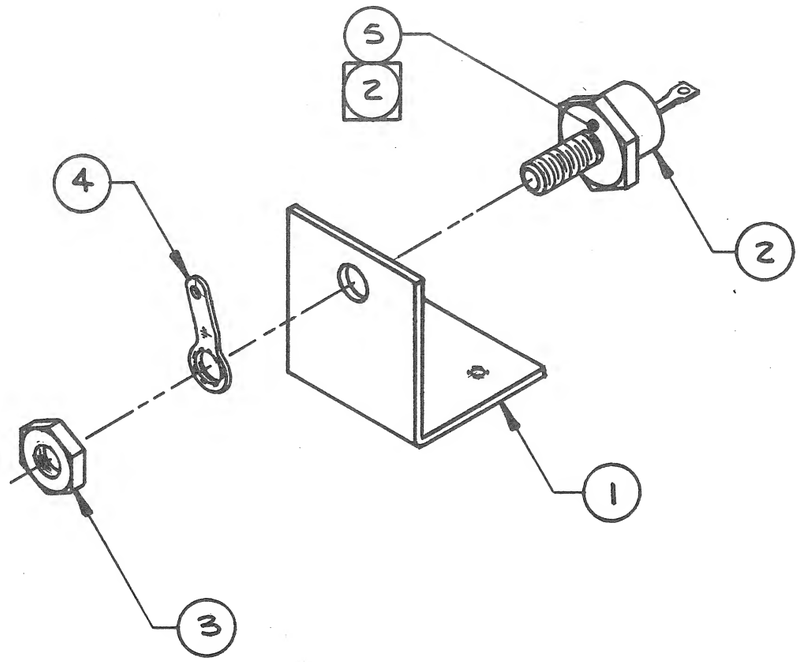
NEXT ASSEMBLY: 207358

MODEL NO.: 0420-30

FORM 795 (R 08/80)

PAGE 1 OF 1

REVISIONS				207072-100	A
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
01	PILOT REL PER ERO 820368	KAM	—	———	
A	PROD. REL ERO 820421/A	KAM	12/14/82	———	



(2) APPLY ITEM 5 (THERMAL COMPOUND) TO BASE OF ITEM 2 (DIODE) BEFORE INSTALLATION.

1. BAG & TAG PART NO., APPROPRIATE DASH NO. & LATEST REVISION LEVEL PER CDP SPEC 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± —— ANGULAR .XXX± —— ± ——	DRAWN	MATTHES	5/26/82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Ram Mahawni	6/1/82
3. MACH. SURFACES —√	APPR.	G Perez	6/4/82
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC: R	MODEL No.	QB	
	NEXT ASSY		

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Garden Grove Division

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ASSY, DIODE - SLOW SPEED MOTOR KIT, 30 IPS

CODE IDENT	QTY REQ'D.	SCALE	SIZE		REV.
80100	1	1/1	B	207072-100	A

DO NOT SCALE THIS DRAWING | CODE IDENT | SHEET 1 OF 1

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207072-001 | REV A

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, DIODE - MOTOR DRIVER, 30 IPS — DSC:R — DOC CODE: Q100

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE		
207318 – 001	1	HEATSINK - ZENER DIODE		1				
107044 – 001	2	DIODE, ZENER 10w 1N3998		1				
136004 – 500	3	NUT, HEX MACH	#10	1				
150527 – 001	4	TERMINAL - LOCKING LUG		1				
120100 – 001	5	THERMAL COMPOUND		A/R				
207072 – 100	6	ASSY DWG		0				
–								
–								
–								
–								
–								
–								
–								
–								

		DATE	REV	ECO	DATE / SIGNATURE
PREPARED BY	T. Scott	5-24-82			
CHECKED BY	Kam Makhani	5/24/82			
DESIGN ENGINEER	G Perez	6/14/82	A	ERO 820421/A	Kam 12/14/82
			/	PROD. REL PER	
			01	PILOT REL	KAM

DWG REL NO.: 820368 — DATE: 06 04 82 (MM DD YY)

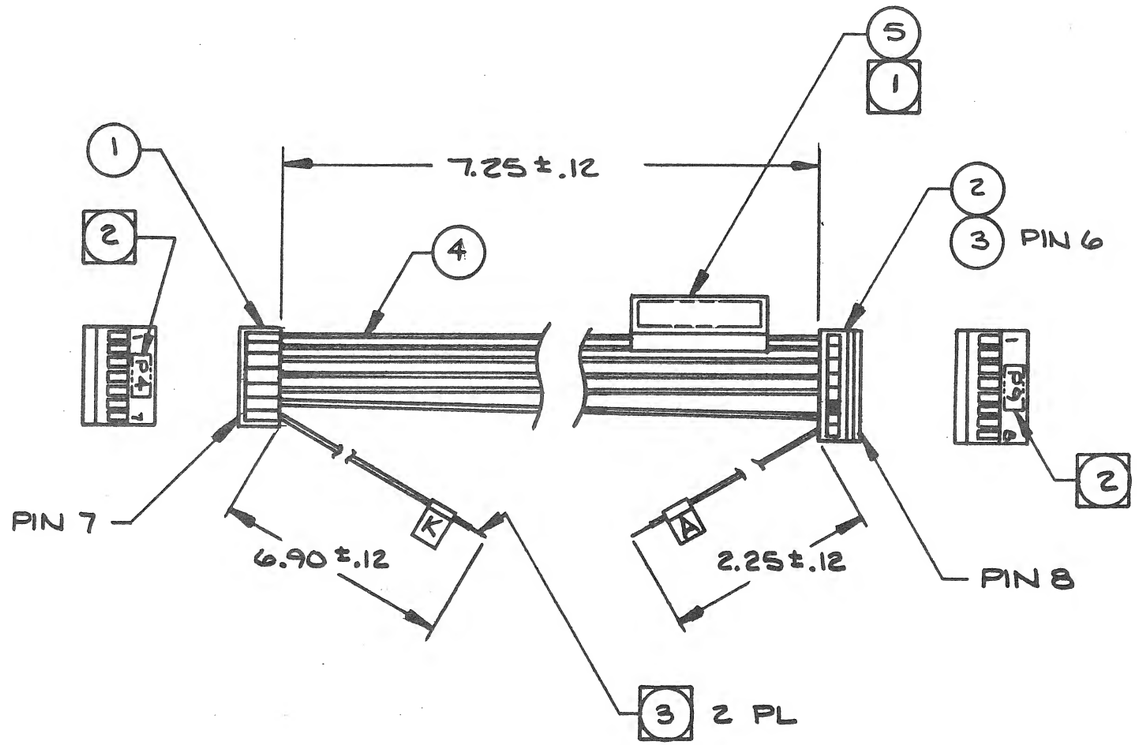
NEXT ASSEMBLY: 207359

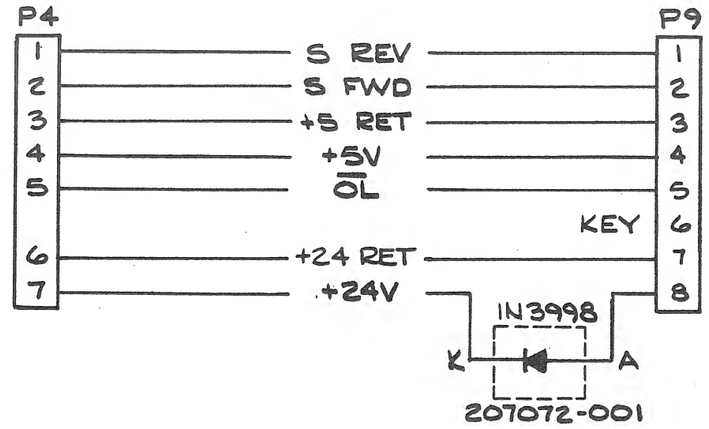
MODEL NO.: 0420-30

FORM 795 (R 09/80)

PAGE 1 OF 1

REVISIONS				207073-100	A
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
01	PILOT REL PER ERO 820368	KAM	—	—	
A	PROD. REL ERO 820421/A	Kam	12/14/82	—	





3. STRIP WIRE ENDS BACK .19 AND LABEL AS SHOWN.

2. MARK CONNECTORS WITH APPROPRIATE REF DESIGNATION USING .12 HIGH WHITE CHARACTERS PER CDP SPEC 100013-001.

1. MARK WITH PART NO., APPROPRIATE DASH NO. & LATEST REVISION LEVEL PER CDP SPEC 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX± — ANGULAR .XXX± — ± —	DRAWN	MATTHES	5-26-82	cipher data products, inc. Garden Grove Division
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Ham Makhani	6/1/82	THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF THE CIPHER DATA PRODUCTS, INC.
3. MACH. SURFACES √	APPR.	G Perez	6/14/82	
4. ALL DIMS IN INCHES.	MATERIAL			ASSY, CABLE - MOTOR DRIVER PWB, 30 IPS
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			CODE Q 115
DSC : R	MODEL No.	QB		QTY REQ'D. 1
	NEXT ASSY			SCALE 1/1 · SIZE B · 207073-100 · REV. A
	DO NOT SCALE THIS DRAWING	CODE IDENT		SHEET 1 OF 1

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207073 — 001 | REV A

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, CABLE - MOTOR DRIVER PWB, 30 IPS DSC: R

DOC CODE: Q115

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
105081 -607	1	CONNECTOR HSG - 7 POS.	P4	1		
105081 -608	2	CONNECTOR HSG - 8 POS.	P9	1		
130006 -001	3	KEY, CONNECTOR HSG		1		
100053 -926	4	WIRE, HOOKUP	26 AWG WHITE	58		06
133500 -001	5	CABLE MARKER		1		
207073 -100	6	ASSY DWG		0		
-						
-						
-						
-						
-						
-						
-						
-						

PREPARED BY	T. Scott	DATE 5-24-82							
CHECKED BY	Ken Makhani	5/24/82	A	BLD 82242/M	DATE				
DESIGN ENGINEER	G Perez	6/14/82		PROD. REL PER					
			02	12341					
			01	PILOT REL					
			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE	

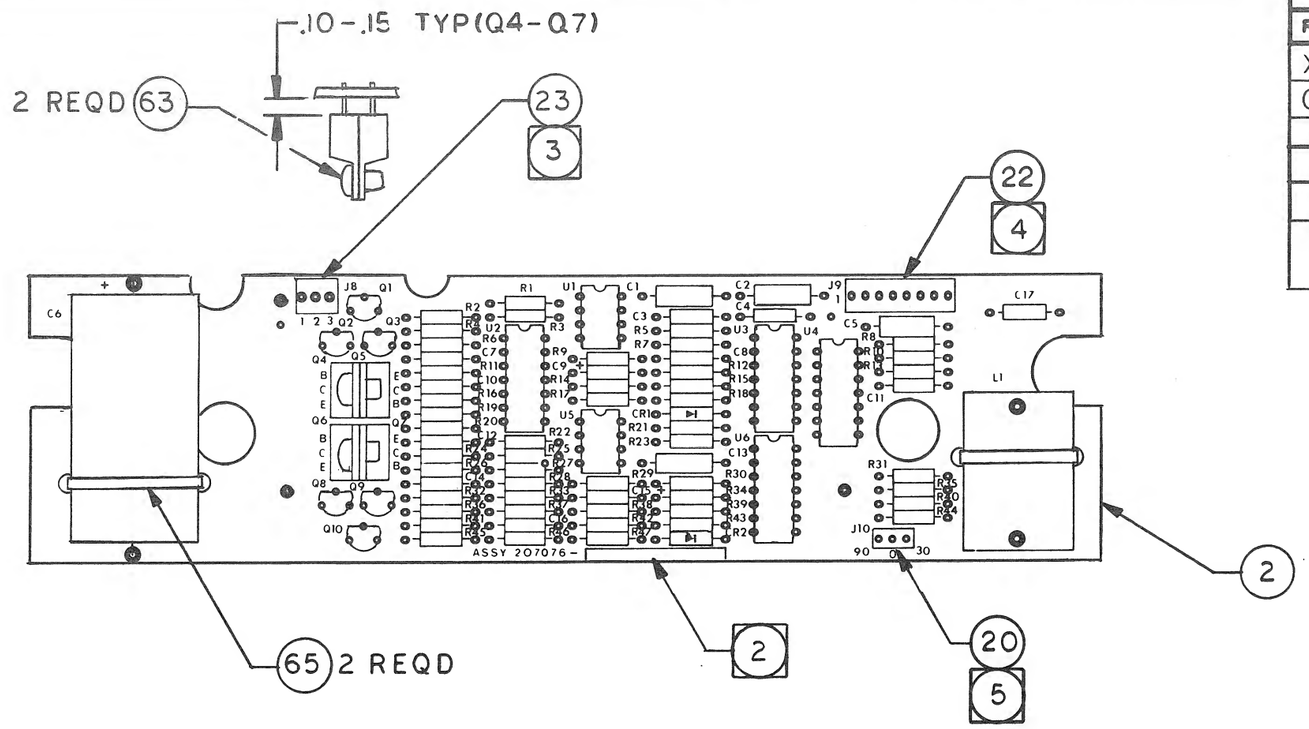
DWG REL NO. 82242/M DATE 05/24/82 (M M D D Y Y)

NEXT ASSEMBLY: 207359

MODEL NO.: 0420-30

FORM 795 (R 08/80)

PAGE 1 OF 1



REVISIONS				207076-100 D
REV.	DESCRIPTION	CHK.	DATE	APPROVED
X1				
01	PILOT REL PER ERO 820426	KMM	—	—
A	PROD. REL PER ERO 820448	Kam	1/24/83	—
B	ECO 12595 JAL	[illegible]	3/23/83	R. Parker
C	ECO 12616	[illegible]	4/5/83	R Parker
D	REVISED AND REDRAWN PER ECO 12738	Kam 7/27/83	8/9/83	L. Parker

6. SECURE C6 WITH RTV AFTER ASSEMBLY.

(5) INSTALL JUMPER ON J10 FROM CENTER PIN TO APPROPRIATE PIN INDICATING DESIRED SPEED

(4) CUT OFF PIN 6(KEY POSITION) WITHIN .030

(3) CUT OFF PIN 1 (KEY POSITION) WITHIN .030

(2) MARK PART NUMBER, APPROPRIATE DASH NUMBER AND LATEST REVISION LETTER PER CIPHER DATA PRODUCTS SPEC 100037-001

1. FOR SCHEMATIC SEE DRAWING NUMBER 207076-200

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± — ANGULAR .XXX± — ± —	DRAWN	T. LINDMAN	8-4-82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Kam Mahjouri	10/5/82
3. MACH. SURFACES — √	APPR.	K. Parker	10/6/82
4. ALL DIMS IN INCHES.	MATERIAL		
5 DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC:R	MODEL No.	QUARTERBACK	
	NEXT ASSY		

cipher data products, inc.
Garden Grove Division

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ASSEMBLY - MOTOR DRIVER

CODE	QTY REQ'D.
Q120	1

SCALE	SIZE		REV.
1/1	B	207076-100	D

DO NOT SCALE THIS DRAWING | CODE IDENT | SHEET 1 OF 1

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207076 — 001 | REV D

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: MOTOR DRIVER — DSC: R — DOC CODE: Q 120

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P —	1					
M P 207075— 001	2	BOARD, PROCESS		1		
M P —	3					
M P —	4					
M P 102665— 104	5	CAPACITOR,50V,.1UF	C3,C4,C10,C11,C17	5		
M P 102667— 103	6	CAPACITOR,10%,100V,.01UF	C7,C12,C14,C16	4		
M P 102667— 104	7	CAPACITOR,10%,100V,.1UF	C13	1		
M P 102667— 183	8	CAPACITOR,10%,100V,.018UF	C8	1		
M P 102668— 472	9	CAPACITOR,5%, 50V,.0047UF	C2,C5	2		
M P 102667— 473	10	CAPACITOR,10%,100V,.047UF	C1	1		
M P 102608— 108	11	CAPACITOR,35V,1000UF	C6	1		
M P 102768— 106	12	CAPACITOR,20%,10V,10UF	C9,C15	2		
M P —	13					
M P —	14					

		DATE	REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	T.A. Lindman	6-29-82	C	12616	R. Ryder 4/5/83			
CHECKED BY	Ron Makhani	9/9/82	B	12595	Ron Makhani 12-22-82			
DESIGN ENGINEER	R. Ryder	10/6/82	A	PROD. REL. 820448	Ram 12/8/83			
			01	FIL REL	Ram 10/18/83			
			X1			D	12738	R. Ryder 7/27/83

DWG REL NO. 820426 — DATE 10 06 82 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO.

FORM 795 (R 09/80)

cipher data products, inc.
Garden Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207076 — 001 | REV D

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P —	15					
M P 122522— 001	16	INDUCTOR, HIGH CURRENT 100μh±10%	L1	1		
M P —	17					
M P 107201— 001	18	DIODE,1N4150	CR1,CR2	2		
M P —	19					
M P 104903 001	20	CLIP, JUMPER	J10	1		
M P 100360— 001	21	PIN, WIRE WRAP,.025SQ	J10	3		
M P 120917— 008	22	HEADER,.100CTR,8 POSITION	J9	1		
M P 120917— 003	23	HEADER, .100CTR,3 POSITION	J8	1		
M P —	24					
M P 123079— 001	25	I.C. 74LS38	U2	1		
M P 123248— 001	26	I.C. 74LS136	U3	1		
M P 125044— 001	27	I.C. LM358	U1,U5	2		
M P 125043— 001	28	I.C. NE556	U4	1		
M P 123029— 001	29	I.C. 74LS00	U6	1		
M P —	30					
M P 100155— 270	31	RESISTOR,1%,1/4W,634	R44	1		
M P 100155— 289	32	RESISTOR,1%,1/4W,1K	R15,R21,R30	3		
M P 100155— 314	33	RESISTOR,1%,1/4W,1.82K	R35	1		

FORM 795 (R 03/82) (Continuation)

cipher data products, inc.
Garden Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

S 7 0 1 1 | M P | 207076 — 001 | REV D

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 100155— 318	34	RESISTOR,1%,1/4W,2K	R40	1		
M P 100155— 334	35	RESISTOR,1%,1/4W,2.94K	R17	1		
M P 100155— 347	36	RESISTOR,1%,1/4W,4.02K	R18,R23	2		
M P 100155— 385	37	RESISTOR,1%,1/4W,10K	R29,R42	2		
M P 100155— 444	38	RESISTOR,1%,1/4W,41.2K	R10	1		
M P 100155— 452	39	RESISTOR,1%,1/4W,49.9K	R12,R34	2		
M P 100155— 460	40	RESISTOR,1%,1/4W,60.4K	R31	1		
M P 100155— 477	41	RESISTOR,1%,1/4W,90.9K	R7	1		
M P 100155— 481	42	RESISTOR,1%,1/4W,100K	R5,R9,R14,R38	4		
M P 100155— 548	43	RESISTOR,1%,1/4W,499K	R8,R39	2		
M P 101156— 101	44	RESISTOR,5%,1/4W,100	R16,R25,R28,R37	4		
M P 101156— 102	45	RESISTOR,5%,1/4W,1K	R47	1		
M P 101156— 103	46	RESISTOR,5%,1/4W,10K	R2,R36	2		
M P 101156— 122	47	RESISTOR,5%,1/4W,1.2K	R13	1		
M P 101156— 202	48	RESISTOR,5%,1/4W,2K	R1	1		
M P 101156— 203	49	RESISTOR,5%,1/4W,20K	R43,R46	2		
M P 101156— 392	50	RESISTOR,5%,1/4W,3.9K	R4,R6,R20,R26,R27,R32	6		
M P 101156— 561	51	RESISTOR,5%,1/4W,560	R22,R33	2		
M P 101156— 682	52	RESISTOR,5%,1/4W,6.8K	R19,R24,R41,R45	4		

FORM 795 (R 03/82) (Continuation)

cipher data products, inc.
Garden Grove Division

ASSEMBLY PARTS LIST
(CONTINUATION)

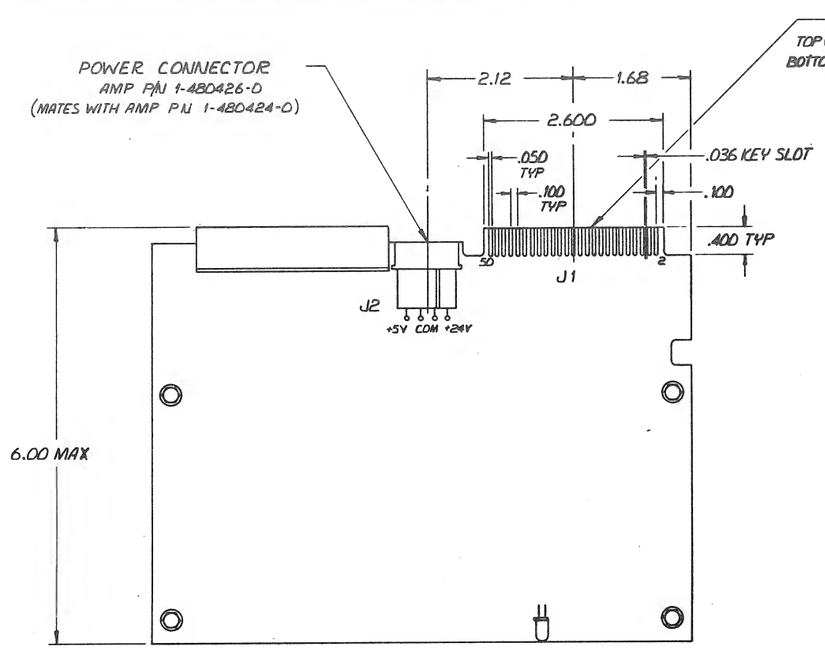
S 7 0 1 1 | M P | 207076 — 001 | REV D

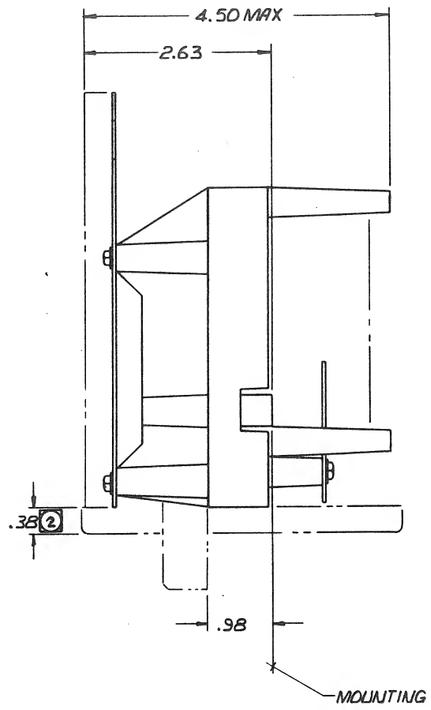
ASSEMBLY PART NUMBER

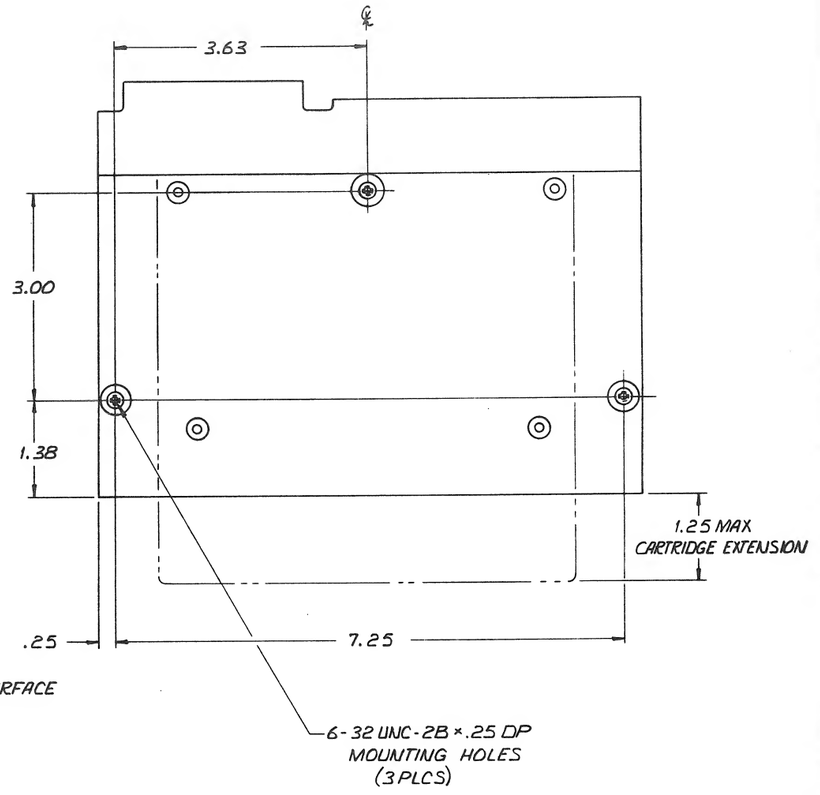
PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 101156— 752	53	RESISTOR,5%,1/4W,7.5K	R3	1		
M P 142033— 001	54	RESISTOR,1%,1W,0.1	R11	1		
M P —	55					
M P —	56					
M P 151027— 002	57	TRANSISTOR TIP120	Q5,Q7	2		
M P 151028— 002	58	TRANSISTOR TIP125	Q4,Q6	2		
M P 151030— 001	59	TRANSISTOR 2N3904	Q2,Q3,Q8,Q9	4		
M P 151031— 001	60	TRANSISTOR 2N3906	Q1,Q10	2		
M P —	61					
M P —	62					
M P 210708 - 420	63	RIVET-POP	Q4,Q5,Q6,Q7	2		
M P —	64			2		
M P 100171 - 002	65	TY-RAP 1/16-1 1/4	L1,C6	2		
M P —	66					
M P 207076— 100	67	ASSEMBLY DRAWING		0		
M P 207076— 200	68	SCHEMATIC		0		
M P 207074— 001	69	PRINTED MASTER		0		
M P —	70					
M P —	71					

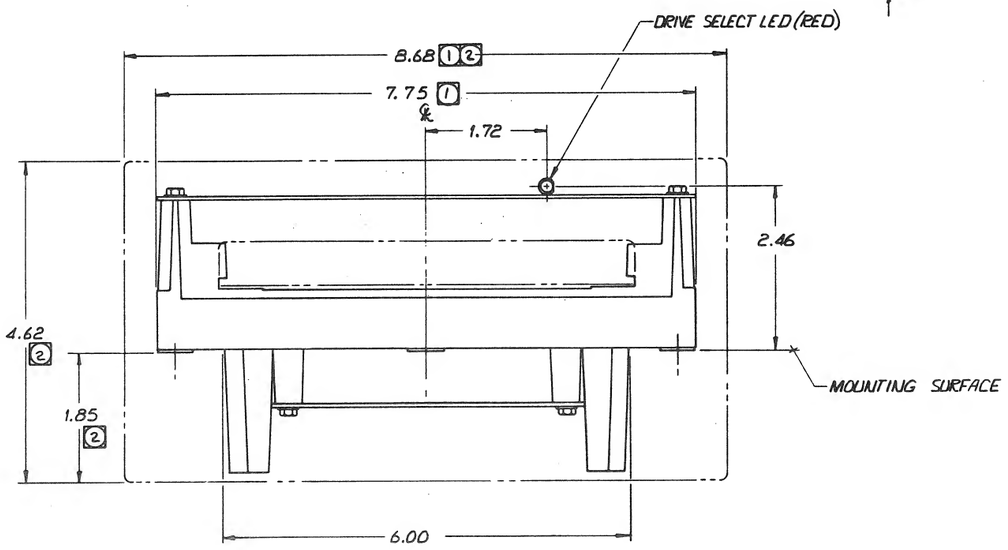
FORM 795 (R 03/82) (Continuation)

REVISIONS				207302-001 A
REV.	DESCRIPTION	CHK	DATE	APPROVED
A	ENG REL	NP	11/29/81	CK 11/30/81
01	PRL REL ERO 820309	KAM	3/5/82	—
01,	ECO 12350 KM	KAM	8/19/82	[signature]
A	PROD REL ERO 820421/A	[signature]	10/15/82	—









(2) OPTIONAL FRONT PLATE DIMENSIONS
(1) SYMMETRICAL ABOUT ℄ WITHIN .01
NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER 207302-001

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX±.02 ANGULAR .XXX±.010 ± —	DRAWN	MATTHES	8-3-82	cipher data products, inc.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	8-3-82	
3. MACH. SURFACES √	APPR.	[signature]	[signature]	
4. ALL DIMS IN INCHES.	MATERIAL			OUTLINE DWG - BASIC CARTRIDGE TAPE DRIVE
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			CODE Q 103 / QTY. REQ'D. 1
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	NEXT ASSY 207350		DO NOT SCALE THIS DRAWING	CODE IDENT 52465 SHEET 1 OF 1

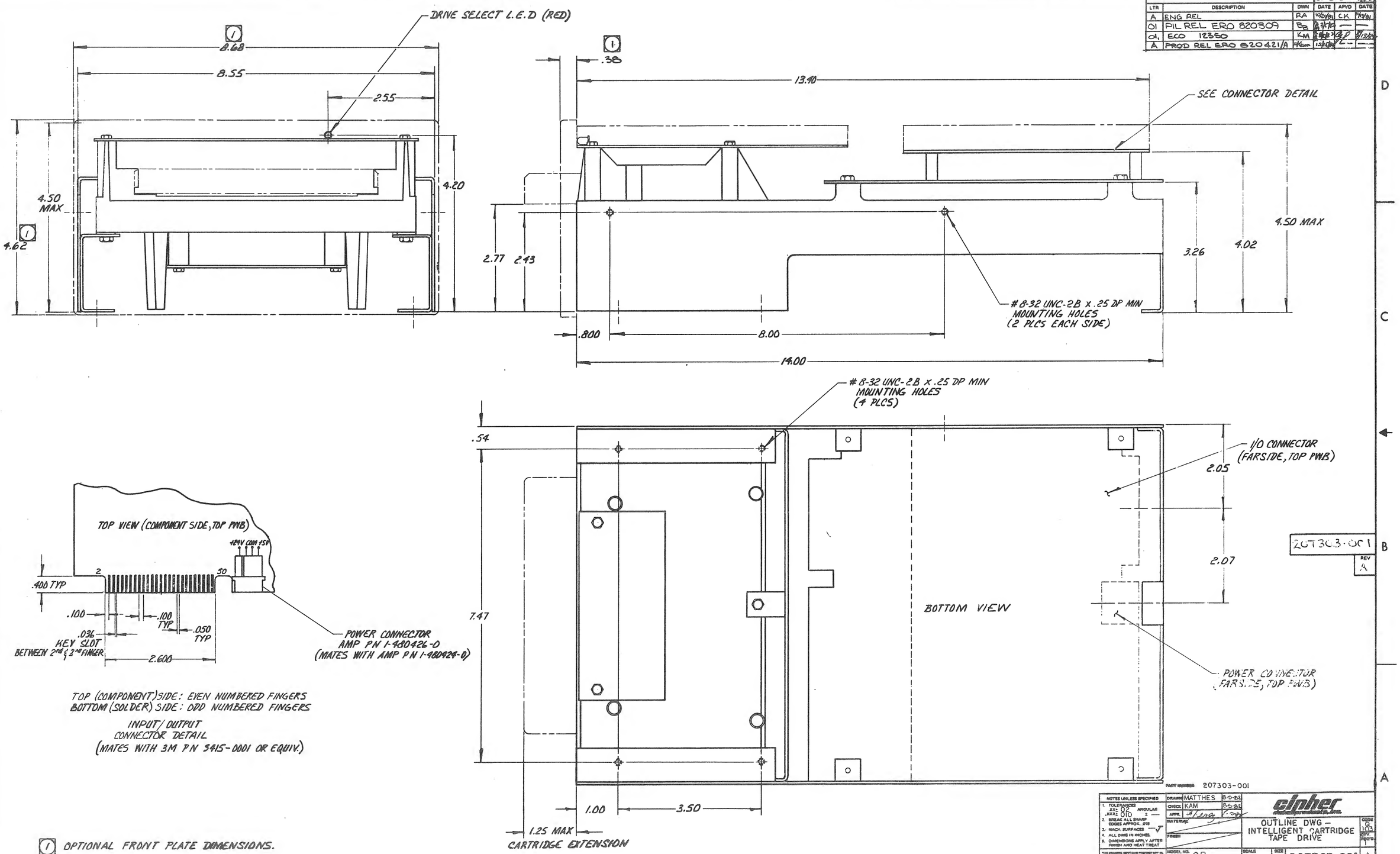
DSC :R

BISHOP GRAPHICS/ACCUPRESS REORDER NO. A 14009 FORM 750 3-81

1-460601-307

REVISION					
LTR	DESCRIPTION	DWN	DATE	APVD	DATE
A	ENG REL	RA	10/26/81	CK	11/4/81
01	PIL REL ERO 820309	BB	3/3/82	—	—
01	ECO 12350	KM	5/25/82	CJ	6/28/82
A	PROD REL ERO 820421/A	KM	12/16/82	—	—

207303-001 A



207303-001 REV A

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX ± .05 ANGULAR .XXX ± .010 ± 2 —	DRAWN	MATTHES	8-5-82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	8-5-82
3. MACH. SURFACES ✓	APPR.		
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
THIS DRAWING AND ANY DATA THEREIN ARE THE PROPRIETARY PROPERTY OF CIPHER DATA PRODUCTS, INC. AND ARE LOANED SUBJECT TO AGREEMENT TO RETURN ON DEMAND AND NOT TO COPY OR LEND FOR MANUFACTURE OR ANY PURPOSE EXCEPT UNDER WRITTEN CONTRACT THE SAME RIGHTS ARE RESERVED UNDER COPYRIGHT LAWS.	MODEL NO.	QB	
	NEXT ASSY		

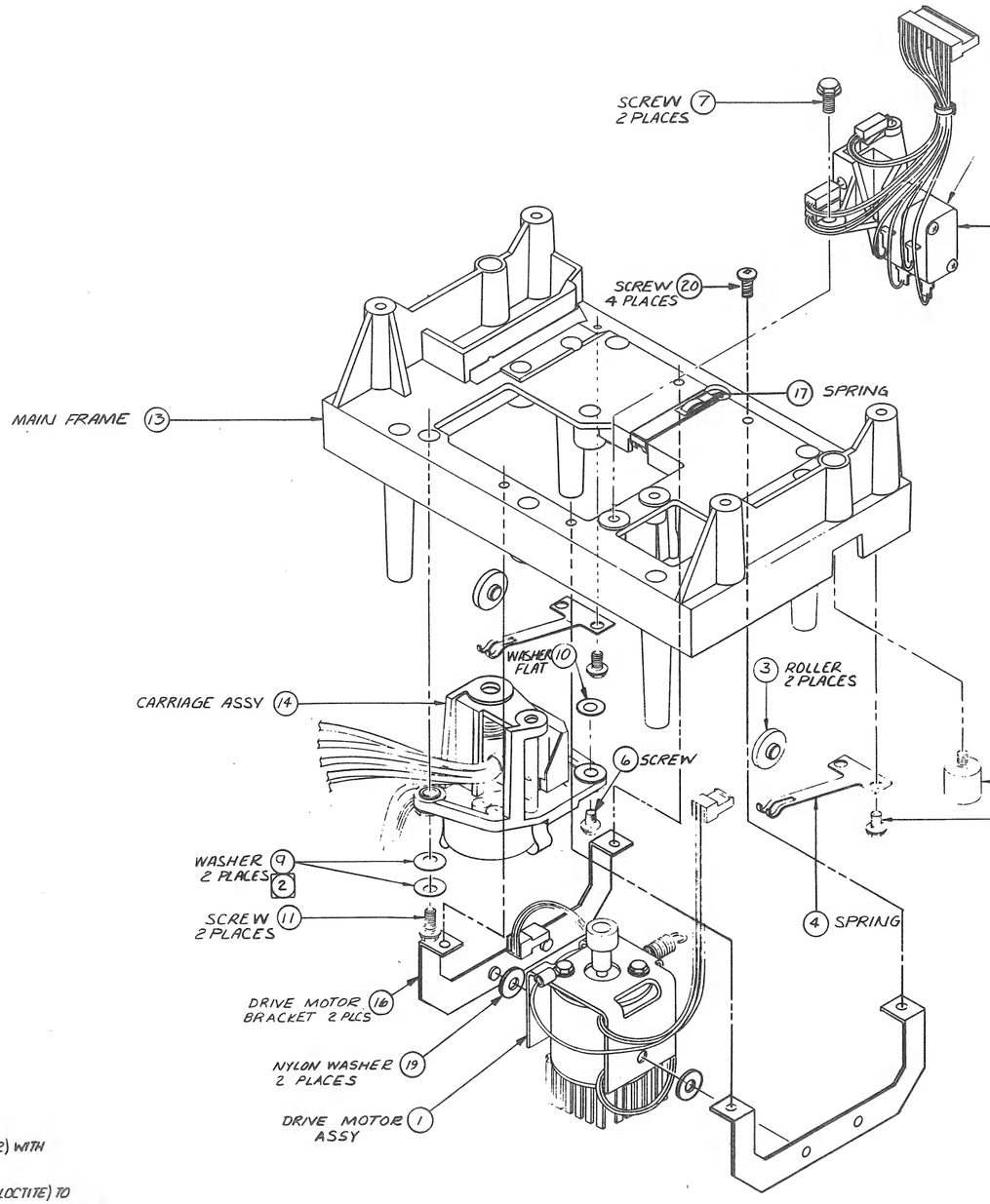
cipher — OUTLINE DWG — INTELLIGENT CARTRIDGE TAPE DRIVE

PART NUMBER 207303-001

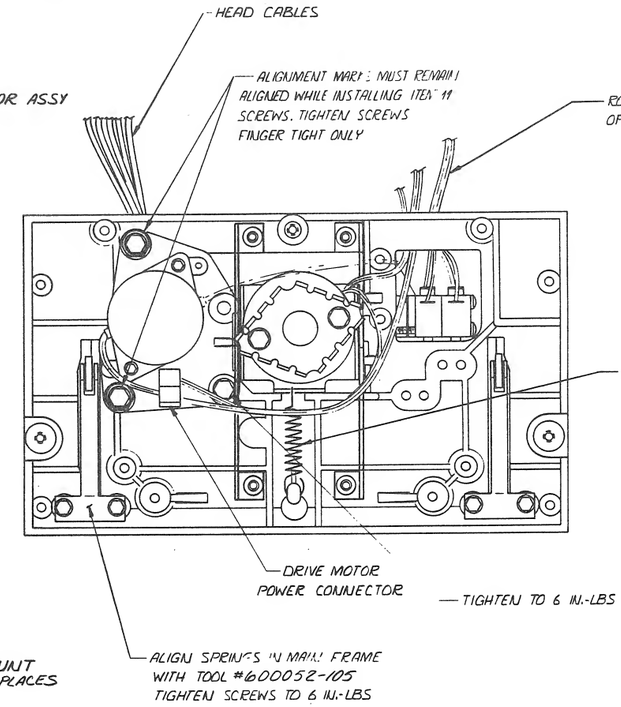
CODE ID 11053 — SIZE D — 207303-001 A — SCALE 1/1 — 52466 — SHEET 1 OF 1

DSC:R

REVISIONS			207304-100 B
REV.	DESCRIPTION	CHK.	DATE / APPROVED
A	ENG REL	NT	11/4/81 CK 11/4/81
01	PIL REL ERO 820309	KAM	3/5/82
02	PER ECO 12336	KAM	
02,	ECO 12351 KM	KAM	
A	PROD. REL ERO 820421/A		12/15/82
B	ECO 12576		



NOTE: ROTATE SENSOR ASSY COUNTER-CLOCKWISE AS FAR AS POSSIBLE WHILE TIGHTENING SCREWS



[ ] INSTALL ITEMS 9 (BELLEVILLE WASHER) WITH CONCAVE SIDES TOWARD EACH OTHER.

[ ] APPLY ONE DROP OF ITEM 12 (GREEN LOCTITE) TO THREADS OF ITEM 5 (SHOCK MOUNT) PRIOR TO ASSEMBLY

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

DSC: R

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX± — ANGULAR .XXX± — ± —	DRAWN	MATTHES	7-30-82	cipher data products, inc.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	7-30-82	
3. MACH. SURFACES √	APPR.			
4. ALL DIMS IN INCHES.	MATERIAL			MAIN FRAME ASSY — CODE: — QTY REQ'D. 1
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			
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	NEXT ASSY	207358, 207359	DO NOT SCALE THIS DRAWING	CODE IDENT 52465 — SHEET 1 OF 1

FORM 388 (R. 10/77)

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | 207304 — 001 | REV B
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, MAIN FRAME | DSC: R | DOC CODE: @100

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207314 — 001	1	ASSY, DRIVE MOTOR		1		
207324 — 001	2	ASSY, SENSOR		1		
207309 — 001	3	ROLLER - DETENT (MOLDED)		2		
207308 — 001	4	SPRING - DETENT		2		
135001 — 001	5	MOUNT - SHOCK		2		
145026 — 306	6	SCREW - WASHER HD HEX 6-32X3/8		1		
145027 — 306	7	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		2		
145027 — 304	8	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		4		
100256 — 002	9	WASHER - BELLEVILLE		4		
163010 — 003	10	WASHER - FLAT		1		
145026 — 308	11	SCREW - WASHER HD HEX, INDENTED 6-32 X 1/2		2		
100465 — 003	12	ADHESIVE-ACCELERATOR		A/R		
207311 — 001	13	MAIN FRAME		1		
207329 — 001	14	ASSY, CARRIAGE		1		

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 1-15-82	B	12576	K.E. Gilley 2-16-83			
CHECKED BY	[signature]	1-26-82	A	ENG REL PER 820420	DATE 1-31-82			
DESIGN ENGINEER	[signature]	1-29-82		PROJ REL PER				
			02	12217	K.E. 5/20/82 R. Magnuson			
			01	PIL REL	K.E. [signature]			

DWG REL NO. 820287 | DATE 2 1 82 (M M D D Y Y)
NEXT ASSEMBLY 207358/207359
MODEL NO. 0420-30/90

FORM 700B (R 09/80)

PAGE 1 OF 2

cipher data products, inc.

ASSEMBLY PARTS LIST (CONTINUATION)

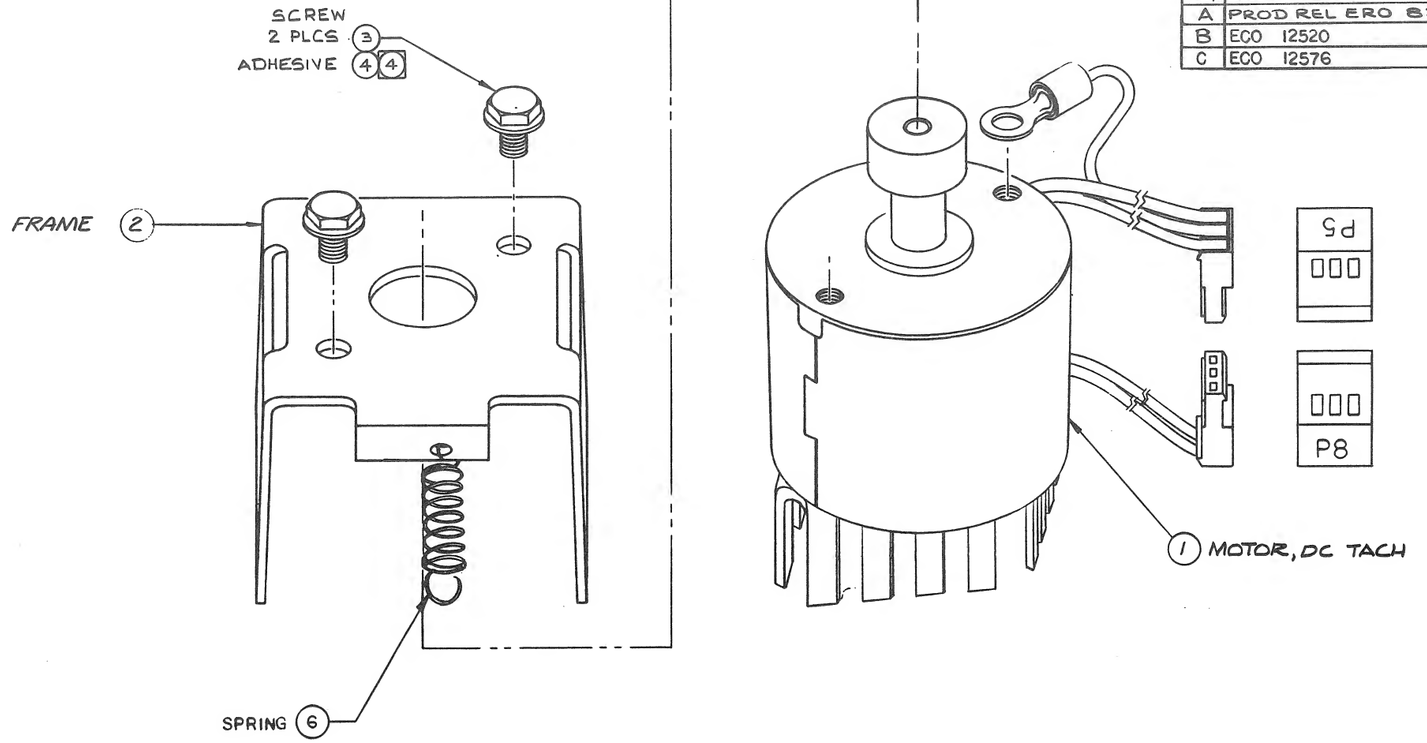
S 7 0 1 1 M P | 207304 — 001 | REV B
ASSEMBLY PARTS NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207304 — 100	15	ASSEMBLY DRAWING		0		
207377 — 001	16	BRACKET, DRIVE MOTOR		2		
207376 — 001	17	SPRING, CARTRIDGE		1		
[illegible]	[illegible]	[illegible]		[illegible]		
100050 — 301	19	WASHER, FLAT NYLON	.192 ID X .50 OD X .010	2		
100293 — 104	20	SCREW, BUT. HD. BLK	4-40 X 1/4	4		

FORM 700B (R 09/80)

PAGE 2 OF 2

REVISIONS				207314-100 C
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	ENG REL	NP	11/4/81	CK 11/13/81
01	PIL REL ERO 820309	KAM	3/5/82	——
02	ECO 12213 KM	KAM	9/1/82	E. Mejeurik
02,	ECO 12351	KAM	8/5/82	G Para
A	PROD REL ERO 820421/A	Kam	12/16/82	——
B	ECO 12520	Kam	1/31/83	Hostetler
C	ECO 12576	Kam	7-18-83	[illegible]



(5) MARK REFERENCE DESIGNATION PER CDP SPEC 100013-001

(4) APPLY ONE DROP OF ADHESIVE TO EACH SCREW BEFORE INSTALLATION

3. BAG & TAG PART NO., APPROPRIATE DASH NO. & LATEST REVISION LEVEL PER CDP SPEC 100037-001.

2. CONFIGURATION WITH SHORT CAPSTAN SHANK AND LONG MOTOR SHAFT IS ACCEPTABLE.

1. ORIENT SEAM ON DRIVE MOTOR CASE AS SHOWN.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

DRAWN	MATTHES	7-29-82
CHECK	MAKHANI	7-29-82
APPR.	Hostetler	11/3/83

cipher data products, inc.

MATERIAL / FINISH	ASSY, DRIVE MOTOR			CODE Q 100
				QTY. REQ'D. 1
MODEL NO. QB	SCALE 2/1	SIZE C	207314-100	C
NEXT ASSY 207304	DO NOT SCALE THIS DRAWING	CODE IDENT 52465		SHEET 1 OF 1

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DSC:R

FORM 383 (R. 10/77)

1160601-421

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M | 207314 — 001 | REV C

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, DRIVE MOTOR | DSC: R | DOC CODE: @100

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207362 — 001	1	MOTOR, DC TACH		1		
207315 — 001	2	FRAME, MOTOR		1		
145026 — 304	3	SCREW, WASHER HD HEX 6-32 X 1/4		2		
100303 — 004	4	ADHESIVE / SEALANT (LOCTITE)	BLUE	A/R		
207314 — 100	5	ASSEMBLY DRAWING		0		
207379 — 001	6	SPRING, CAPSTAN		1		
—						
—						
—						
—						
—						
—						
—						
—						

		DATE
PREPARED BY	Sue Redmond	1-15-82
CHECKED BY	[signature]	1-26-82
DESIGN ENGINEER	[signature]	1-27-82

REV	ECO	DATE / SIGNATURE
B	12520	1/31/83 [signature]
A	ERO 820421 VA	1/14/83 [signature]
/	PROD. REL.	—
02	12213	5/11/83 [signature]
01	PIL REL	—

REV	ECO	DATE / SIGNATURE
C	12576	2-16-83 [signature]

DWG REL NO. 820287 | DATE 2 1 | 1 8 2 (M M D D Y Y)

NEXT ASSEMBLY: 207304

MODEL NO.: 0420-30/90

FORM 705 (R 06/00)

PAGE 1 OF 1

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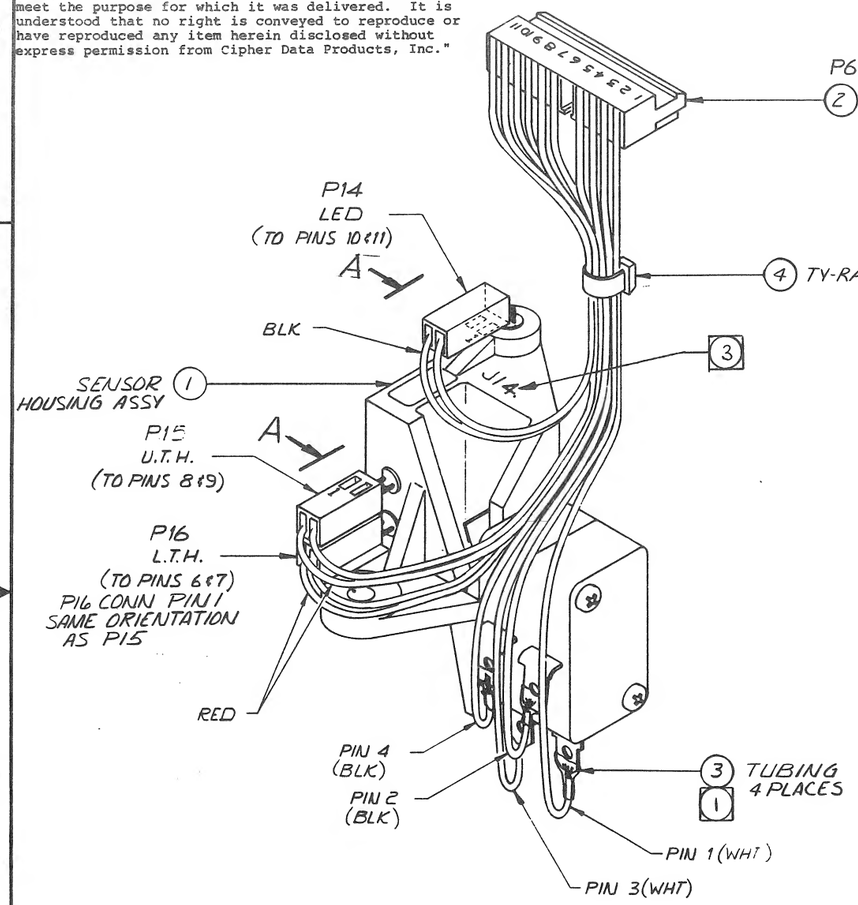
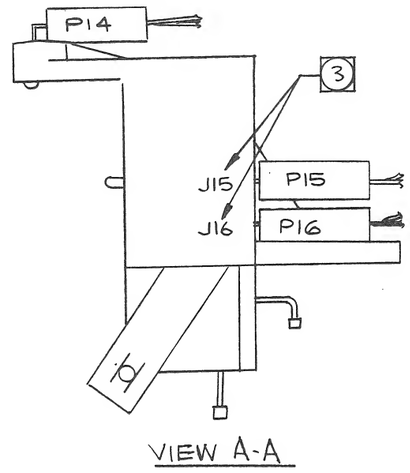
REVISIONS				207324-100 A
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	ENG REL	ND	1/9/81	CK 1/13/81
01	PIL REL ERO 820309	KAM	3/5/82	—
01,	ECO 12351 KM	KAM	8/5/82	G Perez
02	ECO 12464 KM	KAM	7/29/82	S Lentz
A	PROD REL ERO 820421/A	KAM	12/16/82	—





(3) RUBBER STAMP OR STENCIL DESIGNATIONS .12 HIGH WHITE CHARACTERS PER CDP SPEC 100013-001.

2. BAG & TAG PART NO., APPROPRIATE DASH NO & LATEST REVISION LEVEL PER CDP SPEC 100037-001

(1) SOLDER WIRES TO SWITCH, COVER WITH ITEM 3 TUBING.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L

DSC: R

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX± —— ANGULAR .XXX± —— ± ——	DRAWN	MATTHES	7-29-82	cipher data products, inc.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	7-29-82	
3. MACH. SURFACES √	APPR.			
4. ALL DIMS IN INCHES.	MATERIAL			SENSOR ASSY — CODE Q 100
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			QTY. REQ'D. 1
THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.	MODEL NO. QB		SCALE 2/1	SIZE C — 207324-100 — A
	NEXT ASSY 207304		DO NOT SCALE THIS DRAWING	CODE IDENT 52465 — SHEET 1 OF 1

FORM 393 (R. 10/77)

160601-406

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | ASSEMBLY PARTS NUMBER: 207324 — 001 | REV: A

ASSEMBLY TITLE: ASSY, SENSOR DSC:R

DOC CODE: Q100

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE		
207325 — 001	1	ASSY, SENSOR HOUSING		1				
207326 — 001	2	ASSY, HARNESS SENSOR		1				
100185 — 004	3	TUBING, HEAT SHRINKABLE		4		06		
100171 — 001	4	TY-RAP, 1/16 TO 5/8		1				
207324 — 100	5	ASSEMBLY DRAWING		0				
—								
—								
—								
—								
—								
—								
—								
—								
—								

		DATE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	1-14-82			
CHECKED BY	[signature]	1-26-82	A	ERO 820421/A	12/14/82
DESIGN ENGINEER	[signature]	1-29-82	/	PROD. REL	
			02	12464	G Perez 9/2/82
			01	PIL REL	

DWG REL NO.: 820287 | DATE: 2 1 82 (MM DD YY)

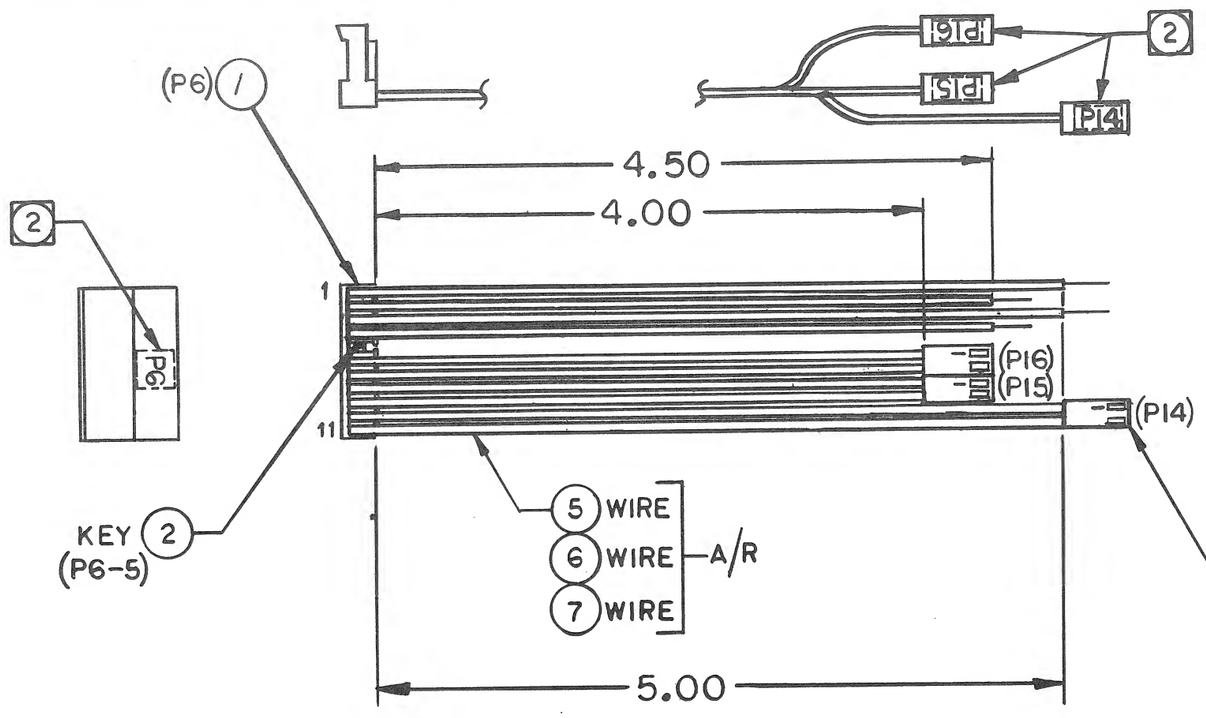
NEXT ASSEMBLY: 207304

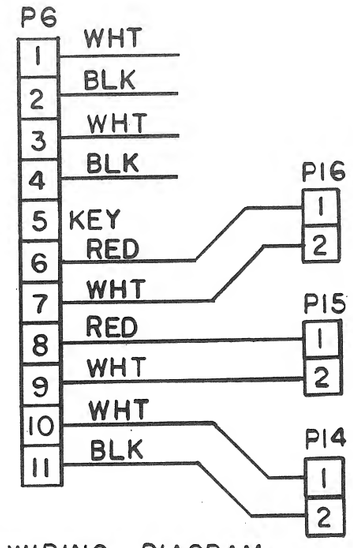
MODEL NO.: 0420-30/90

FORM 796 (R 09/80)

PAGE 1 OF 1

REVISIONS					207326100 B
REV.	DESCRIPTION		CHK.	DATE	APPROVED
A	ENG REL		NP	11/6/81	CK 11/13/81
01	PIL REL ERO 820309	BB	KAM	3/5/82	
01₁	ECO 12351	KM	KAM	8/5/82	
02	ECO 12464	KM	KAM	9/2/82	
A	PROD. REL ERO 820421/A		KAM	12/14/82	
B	ECO 12525		KAM	2-3-83	





WIRING DIAGRAM

PART NUMBER SEE SEPARATE M/L

(2) RUBBER STAMP OR STENCIL DESIGNATIONS .12 HIGH WHITE CHARACTERS PER CDP SPEC 100013-001.

1. BAG & TAG PART NO., APPROPRIATE DASH NO. & LATEST REVISION LEVEL PER CDP SPEC 100037-001.

DSC:R

NOTES: UNLESS OTHERWISE SPECIFIED

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DRAWN	MATTHES	7-29-82
CHECK	KAM	7-29-82
APPR.	J.K	2-3-83

cipher data products, inc.

MATERIAL

FINISH

HARNESS ASSY-SENSOR

CODE Q 115

QTY. REQ'D. 1

MODEL NO. QB

NEXT ASSY 207324

SCALE 1/1

SIZE B

207326-100

B

DO NOT SCALE THIS DRAWING

CODE IDENT 52465

SHEET 1 OF 1

cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | MP | 207326 — 001 | REV B

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, HARNESS - SENSOR — DSC:R — DOC CODE: Q115

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
105081 — 611	1	CONNECTOR, HOUSING	P6	1		
130006 — 001	2	KEY, CONNECTOR HOUSING		1		
105082 — 001	3	CONNECTOR, HOUSING	P14,P15,P16	3		
106017 — 101	4	CONTACT, CRIMP 22-30GA		6		
100053 — 026	5	WIRE, HOOKUP 26 AWG, BLACK		18		06
100053 — 226	6	WIRE, HOOKUP 26 AWG, RED		11		06
100053 — 926	7	WIRE, HOOKUP 26 AWG, WHITE		28		06
207326 — 100	8	ASSEMBLY DRAWING		0		
—						
—						
—						
—						
—						
—						

		DATE
PREPARED BY	Sue Redmond	1-14-82
CHECKED BY	[illegible]	1-26-82
DESIGN ENGINEER	[illegible]	1-29-82

REV	ECO	DATE / SIGNATURE
A	ERD 82042/A	1/14/82
	PROD. REL	
03	12464	2/1/82
02	12341	2/1/82
01	PIL REL	

REV	ECO	DATE / SIGNATURE
B	12525	2/8/82

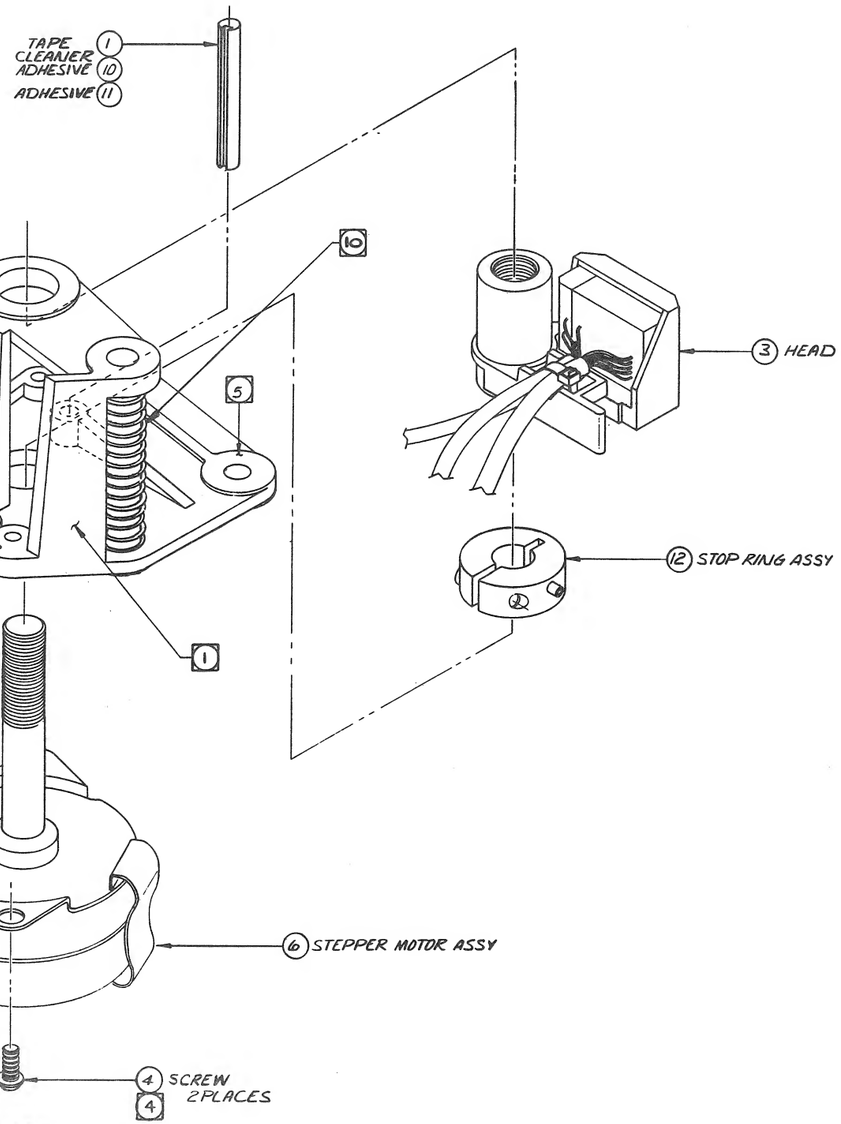
DWG REL NO.	DATE (M M D D Y Y)
820257	2 1 82

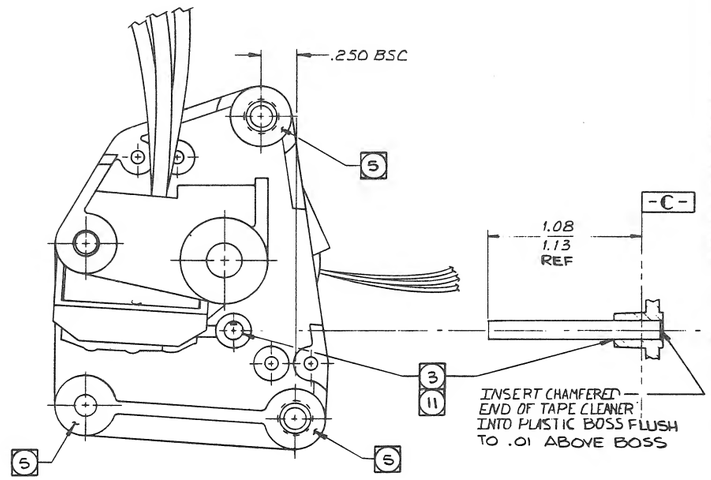
NEXT ASSEMBLY: 207324

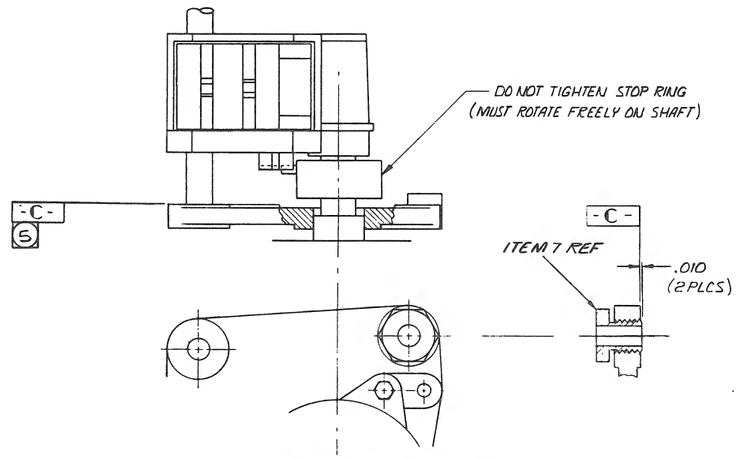
MODEL NO.: 0420-30/90

FORM 795 (R 09/80)

REVISIONS				207329-100	B
REV.	DESCRIPTION	CHK.	DATE	APPROVED	
A	ENG REL	NP	4/13/81	LK 4/17/81	
01	PIL REL ERO 820309	KAM	8/5/82		
02	ECO 12128 KM	KAM	[illegible]	[illegible]	
02	ECO 12351 KM	KAM		[illegible]	
2	PROD REL ERO 820421/9	[illegible]	[illegible]		
B	ECO 12719 JAS	[illegible]	[illegible]	[illegible]	







NOTES: UNLESS OTHERWISE SPECIFIED

DSC: R

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX± —— ANGULAR .XXX±.005 ± 0°30'	DRAWN	MATTHES	7-30-82	cipher data products, inc.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	7-30-82	
3. MACH. SURFACES √	APPR.			
4. ALL DIMS IN INCHES.	MATERIAL			CODE Q 100
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH			CARRIAGE ASSY — QTY. REQ'D. 1
THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.	MODEL NO. QB	SCALE 2/1	SIZE D	207329-100 B
	NEXT ASSY 207304	DO NOT SCALE THIS DRAWING	CODE IDENT 52465	SHEET 1 OF 1

FORM 388 (R. 10/77)

600601-410

cipher

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207329 — 001 | REV B
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, CARRIAGE | DSC: R | DOC CODE: q100

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207331 — 001	1	TAPE CLEANER		1		
—	2					
207322 — 001	3	ASSY, HEAD/CARRIAGE		1		
145027 — 304	4	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD	NO. 6-19 x 1/4	2		
—	5					
207327 — 001	6	ASSY, STEPPER MOTOR		1		
207339 — 001	7	SCREW - ADJUSTMENT		2		
207334 — 001	8	ASSY, CARRIAGE BASE		1		
100409 — 001	9	GREASE, SILICONE	DOW 111	A/R		
100465 — 002	10	ADHESIVE		A/R		
100465 — 003	11	ADHESIVE		A/R		
207332 — 001	12	ASSY, STOP RING		1		
207329 — 100	13	ASSEMBLY DRAWING		0		
—						

		DATE							
PREPARED BY	Sue Redmond	1-15-82	B	12719	BACK BOUGHT IN				
CHECKED BY		1-26-82	A		PROD. REL.				
DESIGN ENGINEER		1-29-82	02	12128					
			01	PIL REL					
			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE	

DWG REL NO. 820287 | DATE 2 1 82 (M M D D Y Y)

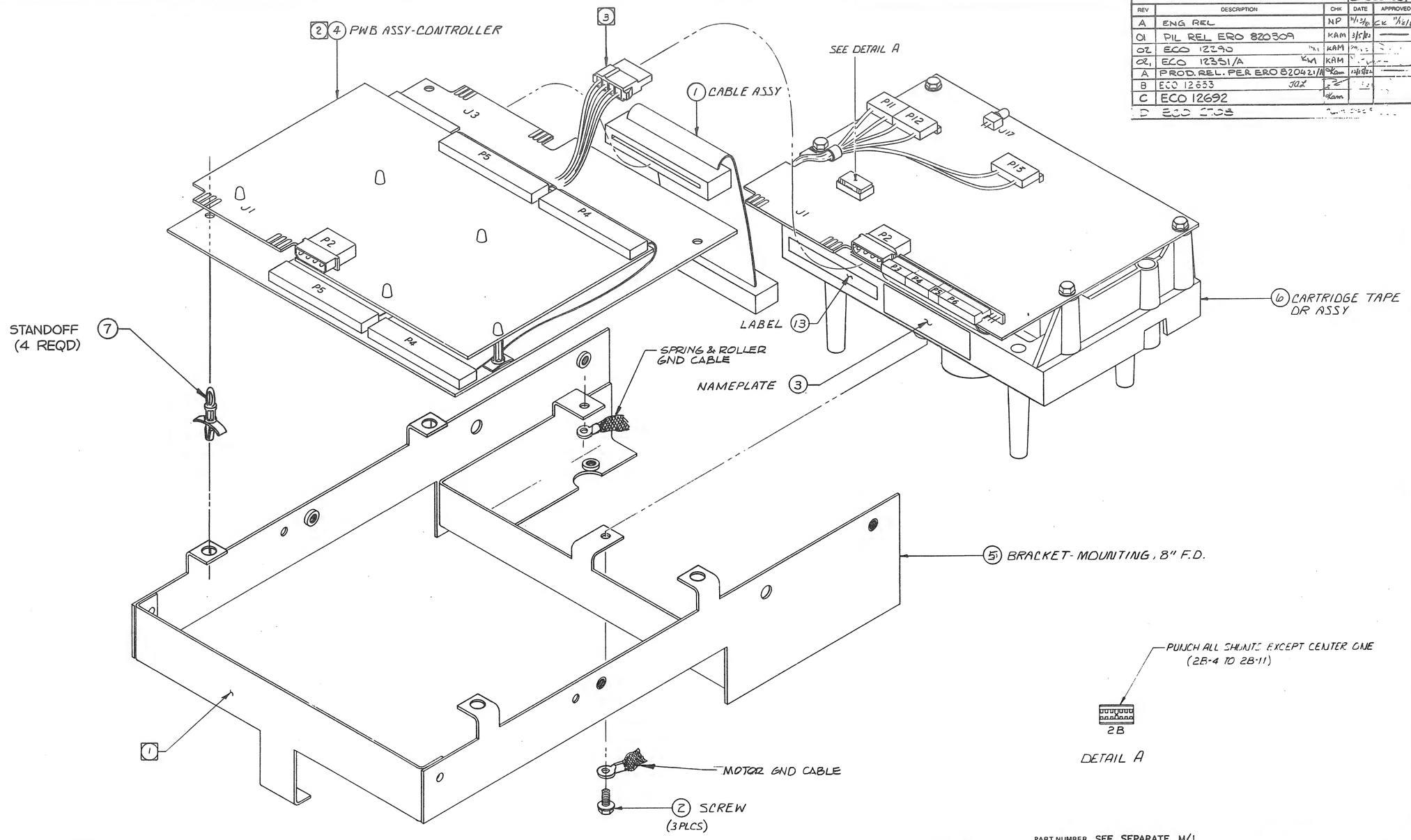
NEXT ASSEMBLY: 207304

MODEL NO.: 0420-30/90

FORM 795 (R 09/80)

PAGE 1 OF 1/2

REVISIONS				207350-100
REV	DESCRIPTION	CHK	DATE	APPROVED
A	ENG REL	NP	11/13/80	CK 11/18/81
01	PIL REL ERO 820309	KAM	3/5/82	
02	ECO 12290	KAM	3/8/82	
02,	ECO 12351/A KM	KAM	4/7/82	
A	PROD. REL. PER ERO 820421/A	KAM	7/29/82	
B	ECO 12653 JAX	KAM	7/29/82	
C	ECO 12692	KAM		
D	ECO 2708			



[3] ROUTE POWER CABLE BETWEEN CONTROLLER BOARDS.

[4] BREAK CONTROLLER PWB (ITEM 4) AT SLOTS BETWEEN P4 & P5 CABLES. CUT OFF EXCESS TABS AND MOUNT SMALLER HALF ONTO (5) PLASTIC SUPPORT POSTS ON LARGER HALF.

[1] STAMP FINAL ASSY P/N & REV ON SURFACE INDICATED.

NOTES: UNLESS OTHERWISE SPECIFIED

DSC: R

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± — ANGULAR .XXX± — ± —	DRAWN	MATTHES	7-29-82
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	KAM	7-29-82
3. MACH. SURFACES √	APPR.		
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		

THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.

cipher data products, inc.

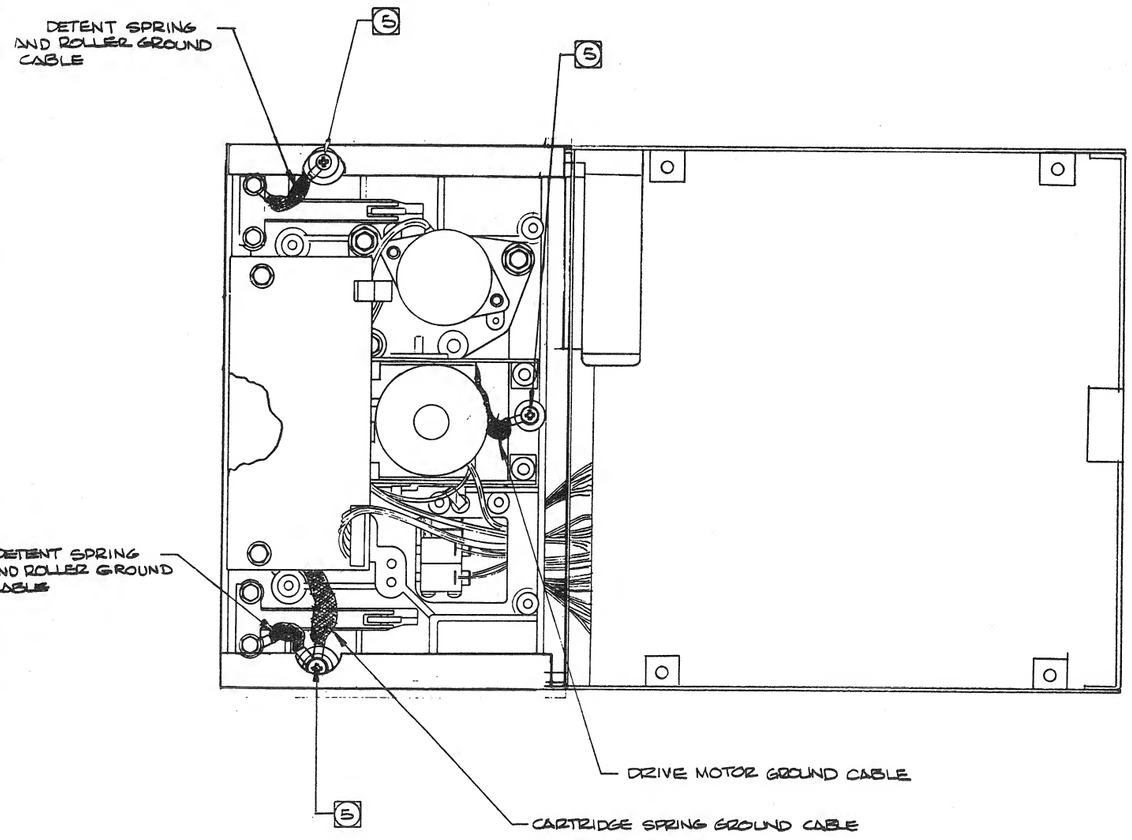
MTT-F420 PICTORIAL

MODEL NO.	CODE	QTY. REQ'D.
QB	Q 101	1

NEXT ASSY	SCALE	SIZE	
	1/1	D	207350-100

DO NOT SCALE THIS DRAWING | CODE IDENT 52465 | SHEET 1 OF 2

1460600-450 C



BOTTOM VIEW

SCALE	SIZE		REV.
1/1	D	207350-100	D
DO NOT SCALE THIS DRAWING	CODE IDENT	SHEET 2 OF 2.	

cipher mechanisms, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207350 — 001 | REV D
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: MTT-F420, 30 IPS, 4 TK | DSC: R | DOC CODE: Q101

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207020 — 001	1	ASSY, CABLE		1		
145026 — 303	2	SCREW, WASHER HD HEX, INDENTED 6-32 x 3/16		3		
207341 — 002	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
207005 — 001	4	ASSY, PWB - CONTROLLER		1		
940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
207359 — 003	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS		1		
147805 — 002	7	STANDOFF-LK. CKT. BD. SUP	3/8" Long	4		
100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
207366 — 001	11	PRODUCT SPEC, QUARTERBACK STREAMING CARTRIDGE TP DR		0		
207350 — 100	12	MTT-F420, PICTORIAL		0		
940012 — 101	13	LABEL, QUARTERBACK		1		
—						

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 1-20-82						
CHECKED BY	[signature]	1-26-82						
DESIGN ENGINEER	[signature]	1-29-82	D	12712	[signature] 2/1/83			
			C	12692	[signature] 2/1/83			

DWG REL NO. 820287 | DATE 2 1 82 (M M D D Y Y)
NEXT ASSEMBLY
MODEL NO. F420-30

FORM 795 (R 09/80)

cipher mechanisms, inc.
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207350 — 001 | REV D
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207305 — 100	15	LABEL INSTRUCTIONS		0		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
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FORM 795 (R 03/82) (Continuation)

cipher mechanisms, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | M P | 207350 — 002 | REV D
ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: MTT-F420, 90 IPS, 4 TK | DSC: R | DOC CODE: Q101

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207020 — 001	1	ASSY, CABLE		1		
145026 — 303	2	SCREW, WASHER HD HEX INDENTED 6-32 X 3/16		2		
207341 — 002	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
207005 — 002	4	ASSY, PWB - CONTROLLER		1		
940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
207358 — 003	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS		1		
147805 — 002	7	STANDOFF-LK. CKT. BD. SUP	3/8" LONG	4		
100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
207366 — 001	11	PRODUCT SPEC, QUARTERBACK STREAMING CARTRIDGE TP DR		0		
207350 — 100	12	MTT-F420, PICTORIAL		0		
940012 — 101	13	LABEL, QUARTERBACK		1		
—						

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 1-20-82						
CHECKED BY	[signature]	1-26-82						
DESIGN ENGINEER	[signature]	1-29-82	D	12712	[signature] 2/1/83			
			C	12692	[signature] 2/1/83			

DWG REL NO. 820287 | DATE 2 1 82 (M M D D Y Y)
NEXT ASSEMBLY
MODEL NO. F420-90

FORM 795 (R 09/80)

cipher mechanisms, inc.
Garden Grove Division

ASSEMBLY PARTS LIST (CONTINUATION)

S 7 0 1 1 | M P | 207350 — 002 | REV D
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207305 — 100	15	LABEL INSTRUCTIONS		0		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
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M P —						
M P —						

FORM 795 (R 02/82) (Continuation)

cipher mechanisms, inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 30 IPS, 4 TK | DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 005 | REV E
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207020 — 001	1	ASSY, CABLE		1		
145026 — 303	2	SCREW, WASHER HD HEX, INDENTED 6-32 x 3/16		3		
207341 — 005	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
207005 — 001	4	ASSY, PWB - CONTROLLER		1		
940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
207359 — 004	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS		1		
147805 — 002	7	STANDOFF-LK. CKT. BD. SUP	3/8" LONG	4		
100472 — 001	8	SHIPPING BAG, PLASTIC - 16 x 14		1		
950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
207350 — 100	12	MTT-F420, PICTORIAL		0		
940012 — 101	13	LABEL, QUARTERBACK		1		
207305 — 100	15	LABEL INSTRUCTIONS		0		

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 7-9-82	E	12760	[signature] 8-8-83			
CHECKED BY	Tom Mahraun	7/15/82	D	12712	[signature] 7/29/83			
DESIGN ENGINEER	[signature]	11/11/82	C	12692	[signature] 7/29/83			
			B	12686	[signature] 5-17-83			
			A	PROD REL	[signature] 11/4/82			

DWG REL NO. 820420 | DATE 9 1 5 8 2 (M M D D Y Y)
NEXT ASSEMBLY
MODEL NO. F420-30

FORM 795 (R 03/82)

cipher mechanisms, inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 90 IPS, 4 TK | DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 006 | REV H
ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207020 — 001	1	ASSY, CABLE		1		
145026 — 303	2	SCREW, WASHER HD HEX INDENTED 6-32 X 3/16		3		
207341 — 003	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
207005 — 002	4	ASSY, PWB - CONTROLLER		1		
940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
207358 — 004	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS		1		
147805 — 002	7	STANDOFF-LK. CKT. BD. SUP	3/8" LONG	4		
100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
207350 — 100	12	MTT-F420, PICTORIAL		0		
940012 — 101	13	LABEL, QUARTERBACK		1		
207305 — 100	15	MTT-F420 LABEL INSTRUCTIONS		0		

			REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
PREPARED BY	Sue Redmond	DATE 7-9-82	E	12636	[signature]			
CHECKED BY	Tom Mahraun	1/3/83	D	12653	[signature]			
DESIGN ENGINEER	[signature]	1/11/83	C	12624	[signature]	H	12712	[signature]
			B	12577	[signature]	G	12712	[signature]
			A	PROD REL	1/4/83	F	12692	[signature]

DWG REL NO. [illegible] | DATE [illegible] (M M D D Y Y)
NEXT ASSEMBLY
MODEL NO. F420-90

FORM 795 (R 03/82)

cipher
Cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 30 IPS, 4 TK DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 009 | REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207020 — 001	1	ASSY, CABLE		1		
M P 145026 — 304	2	SCREW, WASHER HD HEX, INDENTED 6-32 X 1/4		3		
M P 207341 — 008	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
M P 207005 — 003	4	ASSY, PWB - CONTROLLER		1		
M P 940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
M P 207359 — 005	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS		1		
M P 147805 — 002	7	STANDOFF-LK. CKT. BD. SUP.	3/8 LG	4		
M P 100472 — 001	8	SHIPPING BAG, PLASTIC-16 X 14		1		
M P 950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
M P 950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
M P 207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
M P 207350 — 100	12	MTT-F420, PICTORIAL		0		
M P —						
M P 207305 — 100	15	LABEL INSTRUCTIONS		0		

		DATE
PREPARED BY	S. HENCKE	04-18-83
CHECKED BY	Ken Mahlum	4/18/83
DESIGN ENGINEER		6/15/83

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
A	PROD. REL	Ken 6/28/83			

DWG REL NO. 820498 | DATE 4 18 83 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F420-30

FORM 795 (R 03/82) PAGE 1 OF 1

cipher
Cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 30 IPS, 4 TK DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 010 | REV C

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207020 — 001	1	ASSY, CABLE		1		
M P 145026 — 304	2	SCREW, WASHER HD HEX, INDENTED 6-32 X 1/4		3		
M P 207341 — 010	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
M P 207005 — 001	4	ASSY, PWB - CONTROLLER		1		
M P 940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
M P 207359 — 005	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS		1		
M P 147805 — 002	7	STANDOFF-LK. CKT. BD. SUP.	3/8 LG	4		
M P 100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
M P 950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
M P 950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
M P 207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
M P 207350 — 100	12	MTT-F420, PICTORIAL		0		
M P —						
M P 207305 — 100	15	LABEL INSTRUCTIONS		0		

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	R GREENSON	3-25-83
DESIGN ENGINEER	D Hostetler	3-30-83

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
C	12784	R GREENSON 3-28-83			
B	12760	R GREENSON 3-8-83			
A	PROD. REL.				

DWG REL NO. 820477 | DATE 03 30 83 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F420-30

FORM 795 (R 03/82) PAGE 1 OF 1

cipher
Cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 90 IPS, 4 TK DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 011 | REV C

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207020 — 001	1	ASSY, CABLE		1		
M P 145026 — 304	2	SCREW, WASHER HD HEX INDENTED 6-32 X 1/4		3		
M P 207341 — 011	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
M P 207005 — 002	4	ASSY, PWB - CONTROLLER		1		
M P 940075 — 001	5	BRACKET, MOUNTING 8" F.D.		1		
M P 207358 — 005	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS		1		
M P 147805 — 002	7	STANDOFF-LK. CKT. BD. SUP.	3/8 LG	4		
M P 100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
M P 950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
M P 950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
M P 207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
M P 207350 — 100	12	MTT-F420, PICTORIAL		0		
M P —						
M P 207305 — 100	15	MTT-F420 LABEL INSTRUCTIONS		0		

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	R GREENSON	3-25-83
DESIGN ENGINEER	D Hostetler	3-30-83

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
C	12784	R GREENSON 3-28-83			
B	12760	R GREENSON 3-8-83			
A	PROD. REL.				

DWG REL NO. 820477 | DATE 03 30 83 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F420-90

FORM 795 (R 03/82) PAGE 1 OF 1

cipher
Cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: MTT-F420, 30 IPS, 4 TK DSC: R | DOC CODE: Q101

S 7 0 1 1 | M P | 207350 — 012 | REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207020 — 001	1	ASSY, CABLE		1		
M P 145026 — 304	2	SCREW, WASHER HD HEX, INDENTED	6-32 X 1/4	3		
M P 207341 — 008	3	NAMEPLATE, QUARTERBACK TAPE DRIVE		1		
M P 207005 — 001	4	ASSY, PWB - CONTROLLER		1		
M P —	5					
M P 207359 — 005	6	ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS		1		
M P —	7					
M P 100472 — 001	8	SHIPPING BAG, PLASTIC - 16 X 14		1		
M P 950035 — 001	9	SHIPPING CARTON, OUTER BOX		1		
M P 950036 — 001	10	SHIPPING CARTON, INNER FOLD		1		
M P 207366 — 001	11	PRODUCT SPEC., BASIC QUARTERBACK CARTRIDGE TAPE DRIVE		0		
M P 207350 — 100	12	MTT-F420, PICTORIAL		0		
M P —						
M P 207305 — 100	15	LABEL INSTRUCTIONS		0		

		DATE
PREPARED BY	S. HENCKE	08-23-83
CHECKED BY	Ken Mahlum	8/23/83
DESIGN ENGINEER		8/24/83

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
A	PRO REL	Ken 9/6/83			

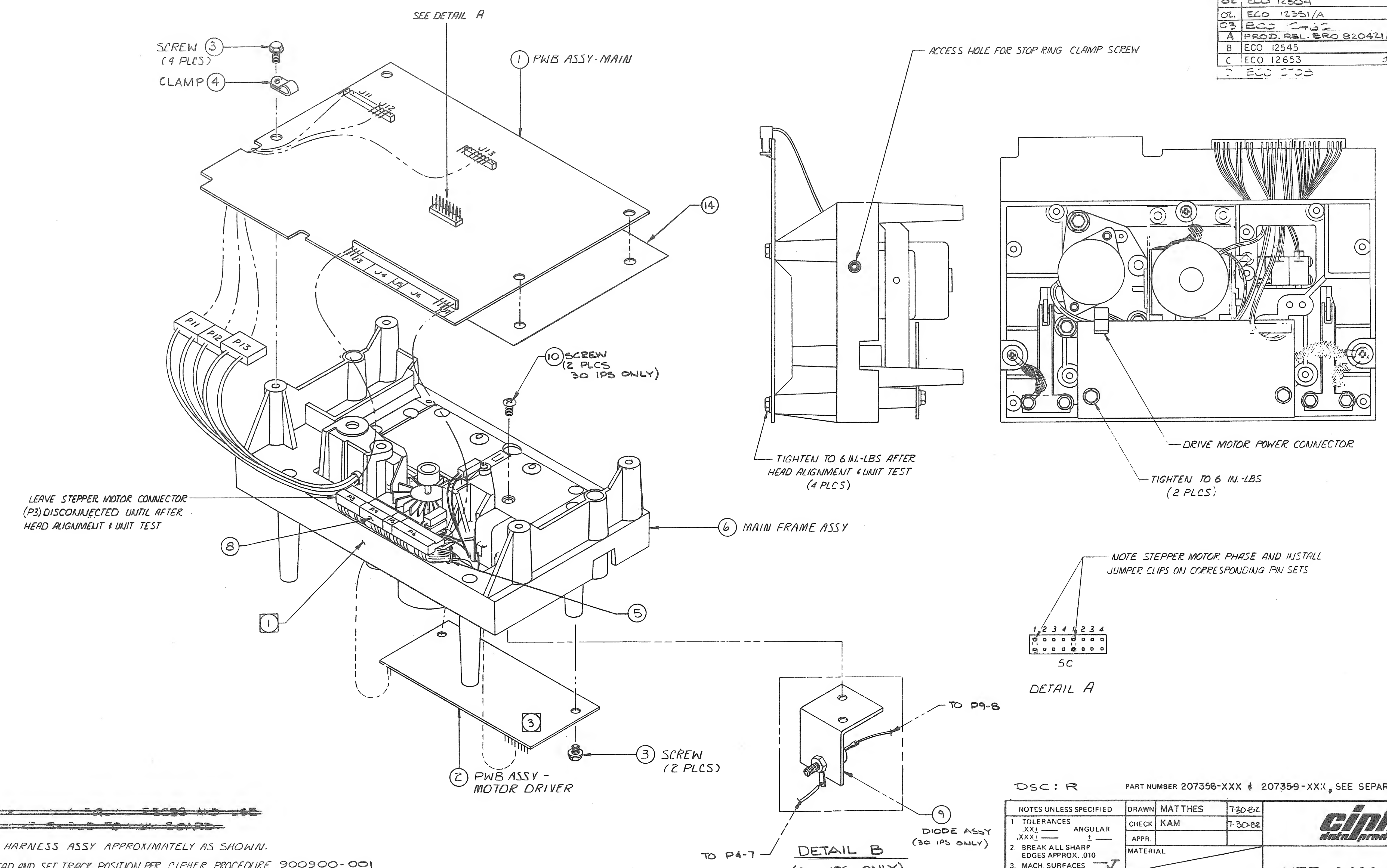
DWG REL NO. 820520 | DATE 08 23 83 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F420-30

FORM 795 (R 03/82) PAGE 1 OF 1

REVISIONS				207358-100
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	ENG REL	NP	[illegible]	CK [illegible]
01	PIL REL ERO 820309	KAM	3/5/82	—
02	ECO 12304	KAM	[illegible]	[illegible]
02.1	ECO 12351/A	KAM	[illegible]	[illegible]
03	ECO [illegible]	KAM	[illegible]	[illegible]
A	PROD. REL. ERO 820421/A	[illegible]	12/5/82	—
B	ECO 12545	[illegible]	[illegible]	[illegible]
C	ECO 12653	[illegible]	[illegible]	[illegible]
D	ECO [illegible]	[illegible]	[illegible]	[illegible]



~~[illegible] AND USE~~
~~[illegible] TO MAIN BOARD~~

3. ROUTE HARNESS ASSY APPROXIMATELY AS SHOWN.
2. ALIGN HEAD AND SET TRACK POSITION PER CIPHER PROCEDURE 900900-001
1. M[illegible] APPROPRIATE FINAL ASSY PART NO. AND LATEST [illegible]LEVEL .12 HIGH WHITE CHARACTERS PER CDP [illegible] 100037-001

NOTES: UNLESS OTHERWISE SPECIFIED

DSC: R

PART NUMBER 207358-XXX & 207359-XXX, SEE SEPARATE M/L

NOTES UNLESS SPECIFIED	DRAWN MATTHES	7-30-82	cipher data products, inc.
1. TOLERANCES .XX± — .XXX± — ANGULAR ± —	CHECK KAM	7-30-82	
2. BREAK ALL SHARP EDGES APPROX. .010	APPR.		
3. MACH. SURFACES √	MATERIAL		MTT-0420 PICTORIAL
4. ALL DIMS IN INCHES.	FINISH		QTY. REQ'D. 1
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	MODEL NO. QB		SCALE 1/1 SIZE D 207358-100
THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC	NEXT ASSY 207350		DO NOT SCALE THIS DRAWING; CODE IDENT 52465; SHEET 1 OF 1

FORM 388 (R. 3/77)

cipher data products, inc.

Garden Grove Division

ASSEMBLY PARTS LIST

S 7 0 1 1 | MP | 207358 — 002 | REV D

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS DSC: R | DOC CODE: Q101

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP	207002 — 002	1	ASSY, PWB - MAIN		1		
MP	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
MP	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
MP	100000 — 019	4	CLAMP, CABLE		1		
MP	100171 — 001	5	STRAP -CABLE, SELF-LOCKING		1		
MP	207304 — 001	6	ASSY, MAIN FRAME		1		
MP	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
MP	207070 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
MP	207358 — 100	11	MTT - 0420, PICTORIAL		0		
MP	—						
MP	—						
MP	207383 — 001	14	SHIELD, MAIN BOARD		1		
MP	~~[illegible]~~	~~15~~	~~[illegible]~~		~~10~~	~~06~~	
MP	—						

		DATE
PREPARED BY	T. Scott	5-24-82
CHECKED BY	Ken Makhani	5/24/82
DESIGN ENGINEER	[illegible]	6/14/82

REV	ECO	DATE / SIGNATURE
A	ECO B20424/M Prod. Rel.	6/14/82
02	12462	6/15/83
01	12351 Pilot Rel.	8/5/82 9/1/82

REV	ECO	DATE / SIGNATURE
D	12686	5/17/83
C	12545	3/16/83
B	12581	1/31/83

DWG REL NO. 820368 | DATE 06 04 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-90

FORM 795 (R 09/80)

PAGE 1 OF 1

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cipher data products, inc.

Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS DSC: R | DOC CODE: Q101

S 7 0 1 1 | 207358 — 003 | REV D

ASSEMBLY PART NUMBER

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
	207066 — 002	1	ASSY, PWB - MAIN		1		
	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
	100000 — 019	4	CLAMP, CABLE		1		
	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
	207304 — 001	6	ASSY, MAIN FRAME		1		
	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
	207070 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
	—						
	—						
	207358 — 100	11	MTT-0420, PICTORIAL		0		
	207383 — 001	14	SHIELD, MAIN BOARD		1		
	~~[illegible]~~	~~15~~	~~[illegible]~~		~~10~~	~~06~~	
	—						

		DATE
PREPARED BY	S. Redmond	7-8-82
CHECKED BY	Ken Makhani	7/9/82
DESIGN ENGINEER	G. Perez	7/26/82

REV	ECO	DATE / SIGNATURE
B	12581	1/31/83
A	ECO B20424/M Prod. Rel.	6/14/82
02	12462	6/15/83
01	Pil. Rel.	7/26/82

REV	ECO	DATE / SIGNATURE
D	12686	5-17-83
C	12545	3/16/83
B	12581	1/31/83

DWG REL NO. 820394 | DATE 7 12 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-90

FORM 795 (R 03/82)

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cipher data products, inc.

Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS DSC: R | DOC CODE: Q101

S 7 0 1 1 | 207358 — 004 | REV D

ASSEMBLY PART NUMBER

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
	207066 — 004	1	ASSY, PWB - MAIN		1		
	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
	100000 — 019	4	CLAMP, CABLE		1		
	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		7		
	207393 — 001	6	ASSY, MAIN FRAME		1		
	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
	207070 — 001	8	ASSY, CABLE - MOTOR DRIVER		1		
	207358 — 100	11	MTT-0420, PICTORIAL		0		
	—						
	207383 — 001	14	SHIELD		1		
	—						
	—						
	—						

		DATE
PREPARED BY	Sue Redmond	7-9-82
CHECKED BY	Ken Makhani	7/14/82
DESIGN ENGINEER	R. Hicken	11/11/82

REV	ECO	DATE / SIGNATURE
D	12686	5-17-83
C	12653	11/11/82
B	ECO 12583	1/31/83
A	PROD REL	11/4/82

DWG REL NO. 820420 | DATE 9 15 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-90

FORM 795 (R 03/82)

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cipher data products, inc.

Garden Grove Division

DSC: R

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 90 IPS | DOC CODE: Q101

S 7 0 1 1 | MP | 207358 — 005 | REV A

ASSEMBLY PART NUMBER

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
	207066 — 004	1	ASSY, PWB - MAIN		1		
	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
	100000 — 019	4	CLAMP, CABLE		1		
	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		7		
	207393 — 002	6	ASSY, MAIN FRAME		1		
	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
	207070 — 001	8	ASSY, CABLE - MOTOR DRIVER		1		
	207358 — 100	11	MTT-0420, PICTORIAL		0		
	—						
	207383 — 001	14	SHIELD		1		
	—						
	—						
	—						

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	[illegible]	3-25-83
DESIGN ENGINEER	[illegible]	3-30-83

REV	ECO	DATE / SIGNATURE
A	REL. PROD.	

REV	ECO	DATE / SIGNATURE

DWG REL NO. 820477 | DATE 03 30 83 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-90

FORM 795 (R 03/82)

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cipher data products, inc.

ASSEMBLY PARTS LIST

S 7 0 1 1 | MP | 207359 — 002 | REV D

ASSEMBLY PARTS NUMBER

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS DSC: R | DOC CODE: Q101

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP	207002 — 001	1	ASSY, PWB - MAIN		1		
MP	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
MP	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
MP	100000 — 019	4	CLAMP, CABLE		1		
MP	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
MP	207304 — 001	6	ASSY, MAIN FRAME		1		
MP	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
MP	207073 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
MP	207072 — 001	9	ASSY, DIODE - MOTOR DRIVER		1		
MP	100036 — 304	10	SCREW, PAN HEAD PHIL	6-32 x 1/4	2		
MP	207358 — 100	11	MTT - 0420, PICTORIAL		0		
MP	207383 — 001	14	SHIELD, MAIN BOARD		1		
MP	~~[illegible]~~	~~15~~	~~[illegible]~~		~~10~~	~~06~~	
MP	—						

		DATE
PREPARED BY	T. Scott	5-24-82
CHECKED BY	Ken Makhani	5/24/82
DESIGN ENGINEER	G. Perez	6/14/82

REV	ECO	DATE / SIGNATURE
A	ECO B20424/M Prod. Rel.	6/14/82
02	12462	6/15/83
01	12351 Pilot Rel.	8/5/82 9/1/82

REV	ECO	DATE / SIGNATURE
D	12686	5-17-83
C	12545	3/16/83
B	12581	1/31/83

DWG REL NO. 820368 | DATE 06 04 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-30

FORM 795 (R 09/80)

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cipher data products, inc.

Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS DSC: R | DOC CODE: Q101

S 7 0 1 1 | MP | 207359 — 003 | REV D

ASSEMBLY PART NUMBER

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
	207066 — 001	1	ASSY, PWB - MAIN		1		
	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
	100000 — 019	4	CLAMP, CABLE		1		
	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
	207304 — 001	6	ASSY, MAIN FRAME		1		
	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
	207073 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
	207072 — 001	9	ASSY, DIODE - MOTOR DRIVER		1		
	100036 — 304	10	SCREW, PAN HEAD PHIL	6-32 x 1/4	2		
	207358 — 100	11	MTT-0420, PICTORIAL		0		
	207383 — 001	14	SHIELD, MAIN BOARD		1		
	~~[illegible]~~	~~15~~	~~[illegible]~~		~~10~~	~~06~~	
	—						

		DATE
PREPARED BY	S. Redmond	7-8-82
CHECKED BY	Ken Makhani	7/9/82
DESIGN ENGINEER	G. Perez	7/26/82

REV	ECO	DATE / SIGNATURE
B	12581	1/31/83
A	ECO B20424/M Prod. Rel.	6/14/82
02	12462	6/15/83
01	Pil. Rel.	7/26/82

REV	ECO	DATE / SIGNATURE
D	12686	5-17-83
C	12545	3/16/83
B	12581	1/31/83

DWG REL NO. 820368 | DATE 06 04 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-30

FORM 795 (R 03/82)

PAGE 1 OF 1

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cipher data products, inc.

Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS DSC: R | DOC CODE: Q101

S 7 0 1 1 | MP | 207359 — 003 | REV D

ASSEMBLY PART NUMBER

	PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
	207066 — 001	1	ASSY, PWB - MAIN		1		
	207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
	145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
	100000 — 019	4	CLAMP, CABLE		1		
	100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
	207304 — 001	6	ASSY, MAIN FRAME		1		
	900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
	207073 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
	207072 — 001	9	ASSY, DIODE - MOTOR DRIVER		1		
	100036 — 304	10	SCREW, PAN HEAD PHIL	6-32 x 1/4	2		
	207358 — 100	11	MTT-0420, PICTORIAL		0		
	207383 — 001	14	SHIELD, MAIN BOARD		1		
	~~[illegible]~~	~~15~~	~~[illegible]~~		~~10~~	~~06~~	
	—						

		DATE
PREPARED BY	S. Redmond	7-8-82
CHECKED BY	Ken Makhani	7/9/82
DESIGN ENGINEER	G. Perez	7/26/82

REV	ECO	DATE / SIGNATURE
B	12581	1/31/83
A	ECO B20424/M Prod. Rel.	6/14/82
02	12462	6/15/83
01	Pil. Rel.	7/26/82

REV	ECO	DATE / SIGNATURE
D	12686	5-17-83
C	12545	3/16/83
B	12581	1/31/83

DWG REL NO. 820368 | DATE 06 04 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-30

FORM 795 (R 03/82)

PAGE 1 OF 1

cipher
Cipher Data Products, Inc.
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS DSC:R | DOC CODE: Q101

S 7 0 1 1 | M P | 207359 — 004 | REV D

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 003	1	ASSY, PWB - MAIN		1		
207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
100000 — 019	4	CLAMP, CABLE		1		
100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
207393 — 001	6	ASSY, MAIN FRAME		1		
900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
207073 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
207072 — 001	9	ASSY, DIODE - MOTOR DRIVER		1		
100036 — 304	10	SCREW, PAN HEAD PHIL	6-32 x 1/4	2		
207358 — 100	11	MTT-0420, PICTORIAL		0		
—						
207383 — 001	14	SHIELD		1		
—						

		DATE
PREPARED BY	Sue Redmond	7-9-82
CHECKED BY	Ram Makhani	7/14/82
DESIGN ENGINEER	R. Walker	11/11/82

REV	ECO	DATE / SIGNATURE
D	12686	5/17/83
C	12653	3/31/83
B	ECO 12553	1/17/83
A	PROD REL	11/18/82

DWG REL NO. 820420 | DATE 9 15 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-30

FORM 795 (R 03/82)

PAGE 1 OF 1

cipher
Cipher Data Products, Inc.
Garden Grove Division

DSC: R

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CARTRIDGE TAPE DRIVE 0420, 30 IPS | DOC CODE: Q101

S 7 0 1 1 | M P | 207359 — 005 | REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207066 — 003	1	ASSY, PWB - MAIN		1		
207076 — 001	2	ASSY, PWB - MOTOR DRIVER		1		
145027 — 308	3	SCREW, THREAD CUTTING INDENTED HEX WASHER HEAD		6		
100000 — 019	4	CLAMP, CABLE		1		
100171 — 001	5	STRAP-CABLE, SELF-LOCKING		1		
207393 — 002	6	ASSY, MAIN FRAME		1		
900900 — 001	7	PROCEDURE, TRACK AND AZIMUTH ALIGNMENT		0		
207073 — 001	8	ASSY, CABLE - MOTOR DRIVER PWB		1		
207072 — 001	9	ASSY, DIODE - MOTOR DRIVER		1		
100036 — 304	10	SCREW, PAN HEAD PHIL	6-32 X 1/4	2		
207358 — 100	11	MTT-0420, PICTORIAL		0		
—						
207383 — 001	14	SHIELD		1		
—						

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	[illegible] HANSON	3-25-83
DESIGN ENGINEER	[signature]	3-30-83

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	

DWG REL NO. 820477 | DATE 03 30 83 (M M D D Y Y)

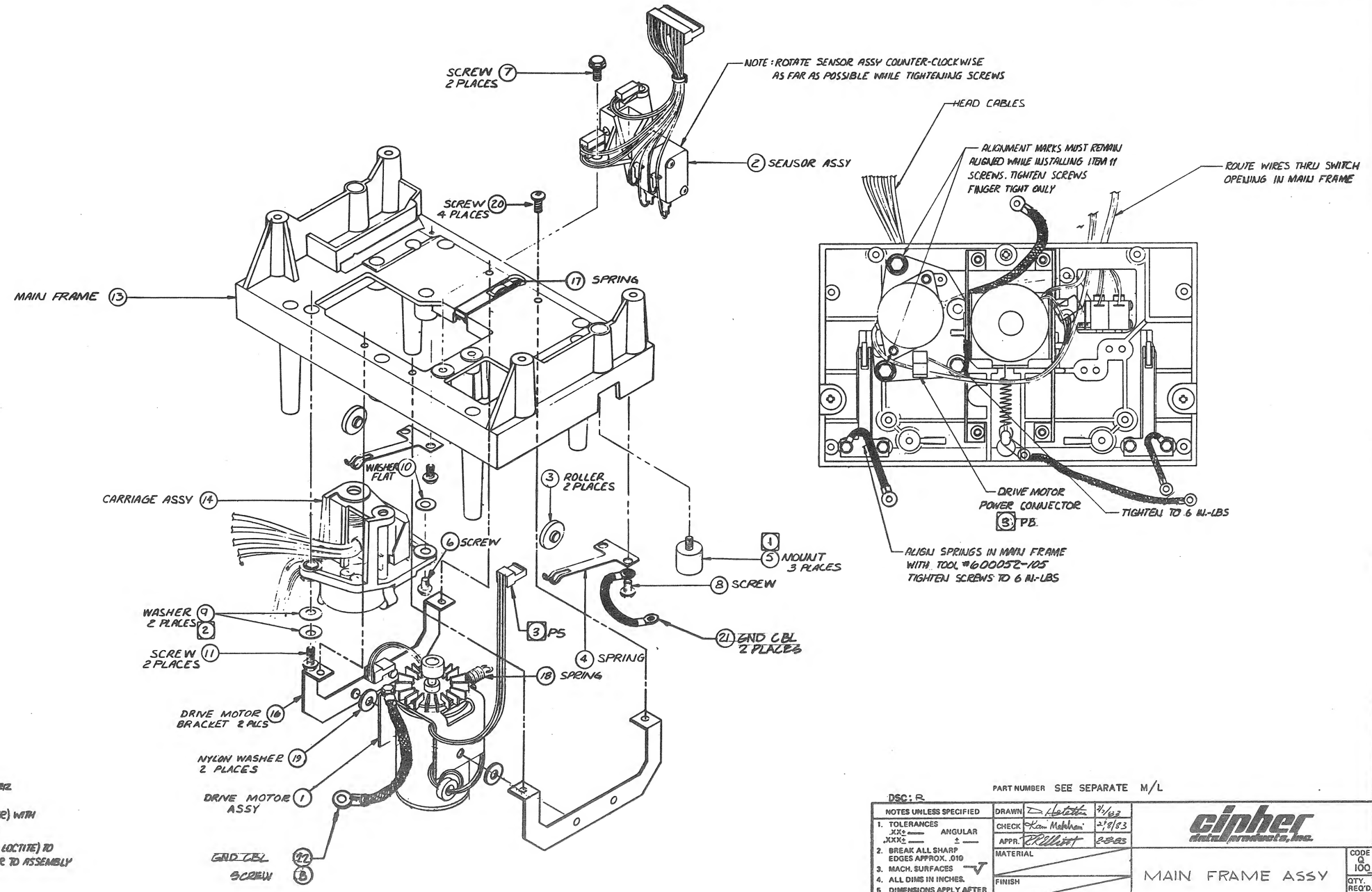
NEXT ASSEMBLY 207350/207351

MODEL NO. F/0420-30

FORM 795 (R 03/82)

PAGE 1 OF 1

REVISIONS				207393-100 B
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	PROD. REL PER ECO 820464	Ken	2/18/83	
B	ECO 12708 KW	Ken	8/8/83	



(3) MARK REFERENCE DESIGNATIONS PER CDP SPEC 100013-001.

(2) INSTALL ITEMS 9 (BELLEVILLE WASHER) WITH CONCAVE SIDES TOWARD EACH OTHER

(1) APPLY ONE DROP OF ITEM 12 (GREEN LOCTITE) TO THREADS OF ITEM 5 (SHOCK MOUNT) PRIOR TO ASSEMBLY

NOTES: UNLESS OTHERWISE SPECIFIED

DSC: R

PART NUMBER SEE SEPARATE M/L

NOTES UNLESS SPECIFIED				
1. TOLERANCES .XX± — ANGULAR .XXX± — ± —	DRAWN	D Hetzler	2/1/83	cipher digital products, inc.
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK	Ken Mathews	2/8/83	
3. MACH. SURFACES √	APPR.	P Rilliet	2-8-83	
4. ALL DIMS IN INCHES.	MATERIAL			CODE Q 100
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		MAIN FRAME ASSY	QTY. REQ'D. 1
THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.	MODEL NO.	QB	SCALE 1/1	SIZE D 207393-100 B
	NEXT ASSY	207358, 207359	DO NOT SCALE THIS DRAWING	CODE IDENT 52465 SHEET 1 OF 1

ASSEMBLY PARTS LIST

Garden Grove Division

DSC: R

ASSEMBLY TITLE: ASSY, MAIN FRAME — DOC CODE: Q100

ASSEMBLY PART NUMBER: S 7 0 1 1 | M P | 207393 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207385 — 001	1	ASSY, DRIVE MOTOR		1		
M P 207324 — 001	2	ASSY, SENSOR		1		
M P 207309 — 001	3	ROLLER - DETENT (MOLDED)		2		
M P 207308 — 001	4	SPRING - DETENT		2		
M P 135001 — 001	5	MOUNT - SHOCK		3		
M P 145026 — 306	6	SCREW - WASHER HD HEX 6-32 X 3/8		1		
M P 145027 — 306	7	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		2		
M P 145027 — 304	8	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		4		
M P 100256 — 002	9	WASHER - BELLEVILLE		4		
M P 163010 — 003	10	WASHER - FLAT		1		
M P 145026 — 308	11	SCREW - WASHER HD HEX, INDENTED	6-32 X 1/2	2		
M P 100465 — 003	12	ADHESIVE-ACCELERATOR		A/R		
M P 207311 — 001	13	MAIN FRAME		1		
M P 207329 — 001	14	ASSY, CARRIAGE		1		

		DATE
PREPARED BY	S. HENCKE	10-27-82
CHECKED BY	Ken Mathews	11/15/82
DESIGN ENGINEER	[illegible]	1-17-83

B 12664 — PROD. REL. 11/17/83

A — REV

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
B	12664	[illegible] 22883			
A	PROD. REL. 11/17/83				

DWG REL NO. 820449 — DATE 11 29 82 (M M D D Y Y)

NEXT ASSEMBLY 207350/207359

MODEL NO. 0420-30/90

FORM 795 (R 03/82)

PAGE 1 OF 2

ASSEMBLY PARTS LIST (CONTINUATION)

Garden Grove Division

ASSEMBLY PART NUMBER: S 7 0 1 1 | M P | 207393 — 001 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 207393 — 100	15	ASSEMBLY DRAWING		0		
M P 207377 — 001	16	BRACKET, DRIVE MOTOR		2		
M P 207376 — 001	17	SPRING, CARTRIDGE		1		
M P 207379 — 002	18	SPRING, CAPSTAN		1		
M P 100050 — 301	19	WASHER, FLAT NYLON	.192 ID X .50 OD .010	2		
M P 100293 — 104	20	SCREW, BUT. HD. BLK	4-40 X 1/4	4		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						

FORM 795 (R 03/82) (Continuation)

PAGE 2 OF 2

ASSEMBLY PARTS LIST

Garden Grove Division

ASSEMBLY TITLE: ASSY, MAIN FRAME — DSC: R — DOC CODE: Q100

ASSEMBLY PART NUMBER: S 7 0 1 1 | M P | 207393 — 002 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
M P 940076 — 001	1	ASSY, DRIVE MOTOR		1		
M P 207324 — 001	2	ASSY, SENSOR		1		
M P 207309 — 002	3	ROLLER - DETENT	BRASS	2		
M P 207308 — 001	4	SPRING - DETENT		2		
M P 135001 — 001	5	MOUNT - SHOCK		3		
M P 145026 — 306	6	SCREW - WASHER HD HEX 6-32 X 3/8		1		
M P 145027 — 306	7	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		2		
M P 145027 — 304	8	SCREW - THREAD CUTTING INDENTED HEX WASHER HEAD		5		
M P 100256 — 002	9	WASHER - BELLEVILLE		4		
M P 163010 — 003	10	WASHER - FLAT		1		
M P 145026 — 308	11	SCREW - WASHER HD HEX, INDENTED	6-32 X 1/2	2		
M P 100465 — 003	12	ADHESIVE-ACCELERATOR		A/R		
M P 207311 — 001	13	MAIN FRAME		1		
M P 207329 — 001	14	ASSY, CARRIAGE		1		

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	[illegible]	3-28-83
DESIGN ENGINEER	[illegible]	3-30-83

B 12717 — PROD. REL. [illegible]

A — REV

REV	ECO	DATE / SIGNATURE	REV	ECO	DATE / SIGNATURE
B	12717	[illegible]			
A	PROD. REL. [illegible]				

DWG REL NO. 820477 — DATE 03 30 83 (M M D D Y Y)

NEXT ASSEMBLY 207358/207359

MODEL NO. 0420-30/90

FORM 795 (R 03/82)

PAGE 1 OF 2

ASSEMBLY PARTS LIST (CONTINUATION)

Garden Grove Division

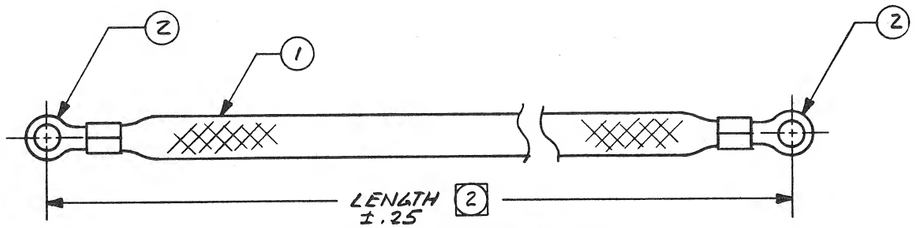
ASSEMBLY PART NUMBER: S 7 0 1 1 | M P | 207393 — 002 | REV B

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
207393 - 100	15	ASSEMBLY DRAWING		0		
207377 - 001	16	BRACKET, DRIVE MOTOR		2		
M P 940017 — 001	17	ASSY, CARTRIDGE SPRING- STATIC GND		1		
M P 207379 — 002	18	SPRING, CAPSTAN		1		
M P 100050 — 301	19	WASHER, FLAT NYLON	.192 ID X .50 OD .010	2		
M P 100293 — 104	20	SCREW, BUT. HD. BLK	4-40 X 1/4	4		
M P 207394 — 002	21	ASSY, CABLE-GROUND STRAP	2.0 IN.	2		
M P 207394 — 003	22	ASSY, CABLE-GROUND STRAP	3.0 IN.	1		
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						
M P —						

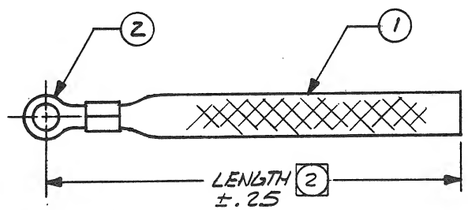
FORM 795 (R 03/82) (Continuation)

PAGE 2 OF 2

REVISIONS			207394-100	A
REV.	DESCRIPTION	CHK.	DATE	APPROVED
A	PROD REL PER ECO B20434	KAM	11/2/92	



-0XX CONFIGURATION



-1XX CONFIGURATION

[2] LAST TWO DIGITS OF DASH NO. OF CABLE INDICATE CABLE LENGTH IN INCHES (I.E. -008 = 8.0±.25 INCHES).

1. TAG WITH PART NO., APPROPRIATE DASH NO. & LATEST REV LEVEL PER CDP SPEC 100037-001.

NOTES: UNLESS OTHERWISE SPECIFIED

PART NUMBER SEE SEPARATE M/L'S

NOTES UNLESS SPECIFIED			
1. TOLERANCES .XX± — ANGULAR .XXX± — ±—	DRAWN	DJH	11/11/92
2. BREAK ALL SHARP EDGES APPROX. .010	CHECK		11-12-92
3. MACH. SURFACES √	APPR.	DJH	11-12-92
4. ALL DIMS IN INCHES.	MATERIAL		
5. DIMENSIONS APPLY AFTER FINISH AND HEAT TREAT	FINISH		
DSC:IR	MODEL No. QB		
	NEXT ASSY 207386, 940016, 940017		

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THIS DRAWING CONTAINS PROPRIETARY INFORMATION OF CIPHER AND MAY NOT, IN WHOLE OR IN PART, BE DUPLICATED OR DISCLOSED OR USED FOR MANUFACTURE OF ANY PART DISCLOSED HEREIN WITHOUT THE PRIOR WRITTEN PERMISSION OF CIPHER DATA PRODUCTS INC.

ASSY, CABLE — GROUND STRAP

CODE	QTY REQ'D.	SCALE	SIZE	REV.
02115	—	2/1	C	A

207394-100

DO NOT SCALE THIS DRAWING | CODE IDENT 52465 | SHEET 1 OF 1

FORM 393 (R. 1-78) BISHOP GRAPHICS/ACCUPRESS REORDER NO. A-3939

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Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CABLE-GROUND STRAP DSC: R DOC CODE: Q115

S 7 0 1 1 M P 207394 — 002 REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 164004 — 004	1	WIRE, BRAID-FLAT	1/4"	2	0	06
MP 950069 — 006	2	TERMINAL, RING TONGUE-UNS	#6, 14-16 AWG	2		
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						

		DATE
PREPARED BY	S. HENCKE	03-25-83
CHECKED BY	[illegible] EMERSON	3-25-83
DESIGN ENGINEER	[signature]	3-30-83

DWG REL NO. 820477 DATE 03/30/83 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F/0420-30/90

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	[signature]

FORM 795 (R 03/82) PAGE 1 OF 1

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Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CABLE-GROUND STRAP DSC: R DOC CODE: Q115

S 7 0 1 1 M P 207394 — 003 REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 164004 — 004	1	WIRE, BRAID-FLAT	1/4"	3	0	06
MP 950069 — 006	2	TERMINAL, RING TONGUE-UNS	#6, 14-16 AWG	2		
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						

		DATE
PREPARED BY	[signature]	11-11-82
CHECKED BY	[signature]	11-12-82
DESIGN ENGINEER	[signature]	11-12-82

DWG REL NO. 820434 DATE 11/12/82 (M M D D Y Y)

NEXT ASSEMBLY

MODEL NO. F/0420-30/90

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	[signature] 11/12/82

FORM 795 (R 03/82) PAGE 1 OF 1

cipher
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CABLE-GROUND STRAP DSC: R DOC CODE: Q115

S 7 0 1 1 M P 207394 — 008 REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 164004 — 004	1	WIRE, BRAID-FLAT	1/4"	[illegible]		06
MP 950069 — 006	2	TERMINAL, RING TONGUE-UNS	#6, 14-16 AWG	2		
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						
MP —						

		DATE
PREPARED BY	[signature]	11-11-82
CHECKED BY	[signature]	11-12-82
DESIGN ENGINEER	[signature]	11-12-82

DWG REL NO. 820434 DATE 11/12/82 (M M D D Y Y)

NEXT ASSEMBLY 207386

MODEL NO. F/0420-30/90

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	[signature] 11/12/82

FORM 795 (R 03/82) PAGE 1 OF 1

cipher
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CABLE-GROUND STRAP DSC: R DOC CODE: Q115

S 7 0 1 1 M P 207394 — 104 REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 164004 — 004	1	WIRE, BRAID-FLAT	1/4"	4	0	06
MP 950069 — 006	2	TERMINAL, RING TONGUE-UNS	#6, 14-16 AWG	1		
MP —						
MP —						
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MP —						
MP —						
MP —						

		DATE
PREPARED BY	[signature]	11-11-82
CHECKED BY	[signature]	11-12-82
DESIGN ENGINEER	[signature]	11-12-82

DWG REL NO. 820434 DATE 11/12/82 (M M D D Y Y)

NEXT ASSEMBLY 940016

MODEL NO. F/0420-30/90

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	[signature] 11/12/82

PAGE 1 OF 1

cipher
Garden Grove Division

ASSEMBLY PARTS LIST

ASSEMBLY TITLE: ASSY, CABLE-GROUND STRAP DSC: R DOC CODE: Q115

S 7 0 1 1 M P 207394 — 105 REV A

ASSEMBLY PART NUMBER

PART NUMBER	ITEM NO.	DESCRIPTION	REMARKS	QUANTITY WHOLE	QUANTITY DECIMAL	U.M. CODE
MP 164004 — 004	1	WIRE, BRAID-FLAT	1/4"	5	0	06
MP 950069 — 006	2	TERMINAL, RING TONGUE-UNS	#6, 14-16 AWG	1		
MP —						
MP —						
MP —						
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MP —						
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MP —						
MP —						
MP —						
MP —						

		DATE
PREPARED BY	[signature]	11-11-82
CHECKED BY	[signature]	11-12-82
DESIGN ENGINEER	[signature]	11-12-82

DWG REL NO. 820434 DATE 11/12/82 (M M D D Y Y)

NEXT ASSEMBLY 940017

MODEL NO. F/0420-30/90

REV	ECO	DATE / SIGNATURE
A	PROD. REL.	[signature] 11/12/82

PAGE 1 OF 1

SECTION 3

MASTER PARTS LIST

3.1 RECOMMENDATIONS

The recommended parts for the Cipher Quarterback Tape Drive are listed in the Master Parts List.

3.2 COMPONENT VARIANCE

For resistors, capacitors, small hardware, and other items not included in the list, equivalents in type, value, size, tolerance, and quality may be substituted.

3.3 INTEGRATED CIRCUIT

For integrated circuit where the manufacture is not specifically listed any manufacturer's device of the specific type may be used.

TABLE 3-1

MASTER PARTS LIST	
Assembly, Main PWB - 30 ips R/B 207066-003	207002-001
Assembly, Main PWB - 90 Ips R/B 207066-004	207002-002
Assembly, Controller PWB	207005-001
Assembly, Controller PWB	207005-002
Assembly, Microcomputer Expander PWB	207011-001
Assembly, Motor Driver PWB R/B 207076-001	207017-001
Assembly, Cable - Motor Driver PWB R/B 207073-001	207018-001
Assembly, Cable	207020-001
Assembly, Cable	207020-002
Assembly, Cable	207020-003
Assembly, Cable	207020-004
Assembly, Power Cable - Controller PWB	207021-001
Assembly, 32 x 8 PROM (Read Decode)	207024-001
Assembly, 32 x 8 PROM (Write Decode)	207025-001
Assembly, 256 x 4 Write Sequencer	207026-001
Assembly, 256 x 4 Host Sequencer	207027-001
Assembly, 2K x 8 PROM	207028-001
Assembly, 512 x 4 Read Sequencer	207029-001
Assembly, 8 Bit Microcomputer R/B 207030-002	207030-001
Assembly, 8 Bit Microcomputer	207030-002
Assembly, 8 Bit Microcomputer - 2K x 8 EPROM	207041-001
Assembly, 8 Bit Microcomputer - 2K x 8 EPROM	207041-002
Assembly, Head -2 Ch. (Erase-Read-Write)	207057-001
Assembly, Main PWB - 30 ips R/B 207066-003	207066-001

TABLE 3-1. (Continued)

Assembly, Main PWB - 90 ips R/B 207066-004	207066-002
Assembly, Main PWB - 30 ips	207066-003
Assembly, Main PWB - 90 ips	207066-004
Assembly, Motor Driver PWB R/B 207076-001	207069-001
Assembly, Cable - Motor Driver PWB R/B 207073-001	207070-001
Assembly, Diode - Slow Speed Motor Kit, 30 ips	207072-001
Assembly, Cable - Motor Driver PWB	207073-001
Assembly, Motor Driver PWB	207076-001
Quarterback Maintenance Manual	207100-001
Quarterback Engr. Drawings	207100-002
Quarterback Theory of Operation	207100-003
Plate, Front	207300-001
Light Pipe	207301-001
Assembly, Main Frame	207304-001
Assembly, Main Frame	207304-002
Spring, Detent	207308-001
Frame, Main	207311-001
Frame, Main - Molded	207312-001
Assembly, Drive Motor (Spare)	207314-001
Frame, Drive Motor	207315-001
Heatsink, Zener Diode	207318-001
Capstan R/B 207389-001	207320-001
Assembly, Head/Carriage	207322-001
Housing, Sensor	207323-001
Assembly, Sensor (Spare)	207324-001
Assembly, Sensor Housing	207325-001
Assembly, Sensor Harness	207326-001
Assembly, Stepper Motor	207327-001
Assembly, Stepper Motor - Terminated	207328-001
Assembly, Carriage (Spare)	207329-001
Assembly, Carriage and Nut	207330-001
Assembly, Stop Ring	207332-001
Assembly, Carriage Base	207334-001
Assembly, Carriage Base	207335-001
Assembly, Carriage Base - Molded	207336-001
Shaft, Carriage Drive - ACME	207337-001
Shield, Cable	207338-001
Screw, Adjustment	207339-001
Certified Tape Cartridge - 450 ft.	207340-001
Nameplate - QB Tape Drive	207341-001
Kit, Front Panel	207346-001
Assembly, MTT F420 - 30 ips/4TK	207350-001
Assembly, MTT F420 - 90 ips/4TK	207350-002
Assembly, MTT F420 - 30 ips/4TK	207350-005
Assembly, MTT F420 - 90 ips/4TK	207350-006
Assembly, MTT F420 - 30 ips/4TK	207350-009
Assembly, MTT F420 - 30 ips/4TK	207350-010
Assembly, MTT F420 - 90 ips/4TK	207350-011
Assembly, MTT F420 - 30 ips/4TK	207350-012

TABLE 3-1. (Continued)

Assembly, MTT F420 - 30 ips/4TK	207351-001
Assembly, MTT F420 - 90 ips/4TK	207351-002
Assembly, MTT F420 - 30 ips/4TK	207351-005
Assembly, MTT F420 - 90 ips/4TK	207351-006
Assembly, MTT F420 - 30 ips/4TK	207351-010
Assembly, MTT F420 - 90 ips/4TK	207351-011
Assembly, Cartridge Drive 0420 - 90 ips	207358-002
Assembly, Cartridge Drive 0420 - 90 ips	207358-003
Assembly, Cartridge Drive 0420 - 90 ips	207358-004
Assembly, Cartridge Drive 0420 - 90 ips	207358-005
Assembly, Cartridge Drive 0420 - 30 ips	207359-002
Assembly, Cartridge Drive 0420 - 30 ips	207359-003
Assembly, Cartridge Drive 0420 - 30 ips	207359-004
Assembly, Cartridge Drive 0420 - 30 ips	207359-005
Motor, Stepper	207360-001
Motor, DC, Tach R/B207385-001	207362-001
Drive Nut, Carriage	207363-001
Spring, Compression - Carriage	207375-001
Bracket, Drive Motor	207377-001
Nameplate - Cipher Data Products Logo	207378-001
Cover, Sensor	207381-001
Drive Motor, DC, Tach	207385-001
Frame, Drive Motor	207387-001
Capstan	207389-001
Assembly, Main Frame	207393-001
Assembly, Main Frame	207393-002
Assembly, Ground Strap Cable	207394-002
Assembly, Ground Strap Cable	207394-003
Assembly, Ground Strap Cable	207394-008
Assembly, Ground Strap Cable	207394-104
Assembly, Ground Strap Cable	207394-105
Tracking Tape Cartridge	940049-001
Azimuth Tape Cartridge	940050-001
Bracket, Mounting - 8" F.D.	940075-001
Tape Cartridge Certified by DE1-450 ft.	950125-001

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